XPS-30
EXPANDABLE SYNTHESIZER

SERVICE NOTES
Issued by RJA

Table of Contents

Revise Information

Mar. 28, 2016	p. 18	Corrected an error.
Mar. 24, 2017	p. 2	Deleted the circuit diagrams of Main Board.

Cautionary Notes

Before beginning the procedure, please read through this document. The matters described may differ according to the model.

Back Up User Data!

User data may be lost during the course of the procedure. Refer to **Data Backup and Restore Operations** (p. 17) in the Service Notes and save the data. After completing the procedure, restore the backed-up data to the product.

Part Replacement

When replacing components near the power-supply circuit or a heat-generating circuit (such as a circuit provided with a heat sink or including a cement resistor), carry out the procedure according to the instructions with respect to the part number, direction, and attachment position (mounting so as to leave an air gap between the component and the circuit board, etc.).

Parts List

A component whose part code is ******** will not be supplied as a service part because one of the following reasons applies.

- Because it is supplied as an assembled part (under a different part code).
- Because a number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Because supply is prohibited due to copyright restrictions.
- Because reissuance is restricted.
- Because the part is made to order (at current market price).
- Because it is carried in electronic data on the Roland web site.
- Because it is a package or an accessory irrelevant to the function maintenance of the main body.
- Because it can be replaced with an article on the market. (battery or etc.)

Circuit Diagram

In the circuit diagram, "NIU" is an abbreviation for "Not in Use," and "UnPop" is an abbreviation for "Unpopulated." They both mean non-mounted components. The circuit board and circuit board diagram show silk-screened indications, but no components are mounted.

There are cases that the circuit diagrams are omitted. This omission will happen to the highly integrated digital circuit boards (e.g. Main Board etc) that are virtually impossible to repair nor analyze.

Specifications

Roland XPS-30: Synthesizer Keyboard (Conforms to General MIDI 2 System)

Keyboard

61 keys (with velocity)

Sound Generator Section

Maximum Polyphony

128 voices

Parts

16 parts

Preset Memory

Patches:	Over 1400
Drum kits:	Over 35
Performances:	28

* *GM2 compatible sounds are included.*

User Memory

Patches:	256
Drum kits:	8
Performances:	128
Favorites:	100

Wave Expansion Slots

1 slot

* *The wave expansion slot is rewritable internal waveform memory. You can download data from the Axial sound library site and write it via a USB flash drive into the XPS-30's internal wave memory (slot).*

Sample Import Function

File format: WAV (44.1 kHz, 16 bits)

Effects

Multi-effects:	3 systems, 80 types
Chorus:	3 types
Reverb:	5 types
Mic input reverb:	8 types

Audio File Player Section

File Format

Audio file: WAV, AIFF, MP3

Other

Rhythm pattern

Preset: 30 groups x 8

Arpeggio

Preset: 128

Controllers

Pitch bend/Modulation lever
Control knob x 4
Level slider x 4
Multicolor pad x 8

Display

Graphic LCD 256 x 80 dots

External Storage Device

USB flash drive (supports USB 2.0 Hi-Speed flash memory)

Connectors

PEDAL HOLD jack
PEDAL CONTROL jack
MIC INPUT jack: 1/4-inch phone type
EXT INPUT jack: stereo miniature phone type
OUTPUT jacks (L/MONO, R):1/4-inch phone type
PHONES jack: stereo 1/4-inch phone type
MIDI connectors (IN, OUT)
USB MEMORY port
USB COMPUTER port (supports USB MIDI/AUDIO)
DC IN Jack

Power Supply

DC 9 V: AC adaptor or rechargeable Ni-MH battery (AA, HR6) (sold separately) x 8

Current Draw

600 mA

Battery life for continuous use

Rechargeable nickel metal hydride batteries:
approximately 5 hours
(When using batteries having a capacity of 1900 mAh.)
approximately 4 hours
(if USB flash drive is connected)

* *Differs depending on the conditions of use)*

* *Carbon-zinc or alkaline batteries cannot be used*

Dimensions

1,008 (W) x 300 (D) x 97 (H) mm
39-11/16 (W) x 11-13/16 (D) x 3-7/8 (H) inches

Weight

5.3 kg / 11 lbs 12 oz (excluding AC adaptor)

Accessories

Owner's manual (#5100046932, #5100047509)
Leaflet "USING THE UNIT SAFELY"(#********)
AC adaptor (#04236101)
Power cord (#5100012293, #5100000692, #5100000564, #5100039367, #5100018086, #05017301)

Options (sold separately)

Keyboard stand (*1): KS-18Z, KS-12
Pedal switch: DP series
Expression pedal: EV-5
USB flash memory (*2)

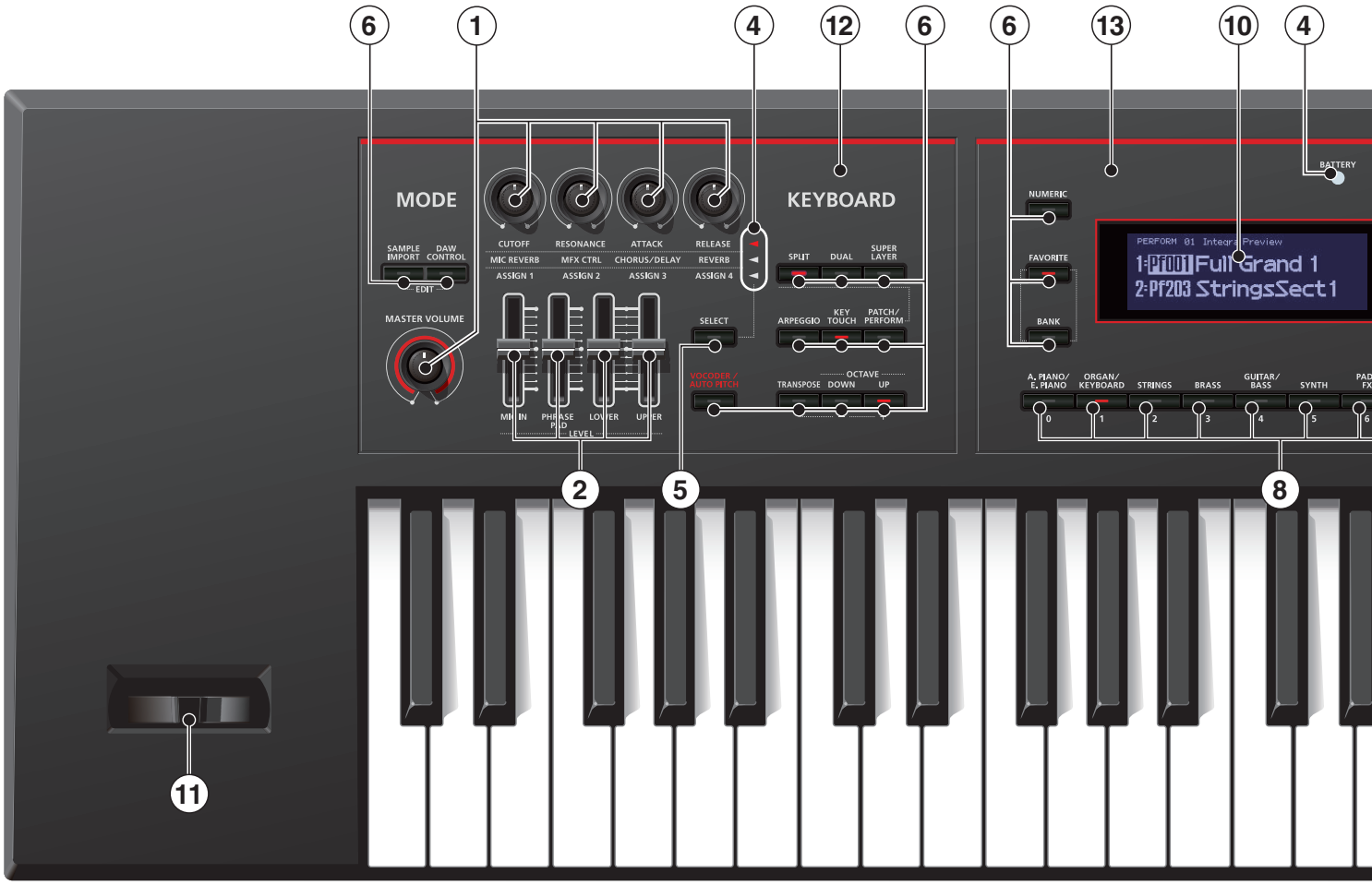
*1 *When using the KS-18Z, ensure that the height of the unit is one meter or lower.*

*2 *Use USB flash memory (supports USB 2.0 Hi-Speed flash memory) sold by Roland. We cannot guarantee operation if other products are used.*

* *Printed matters will not be supplied after the end of the production. Then, download the electronic file from the Roland web site.*

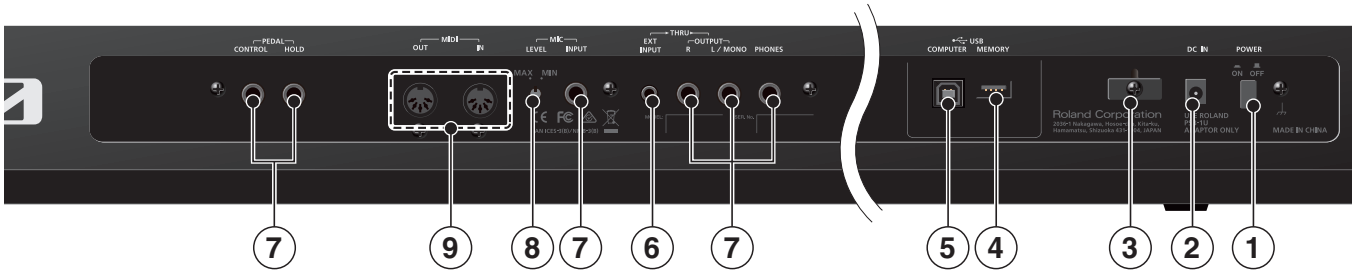
* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

Location of Controls (Top)



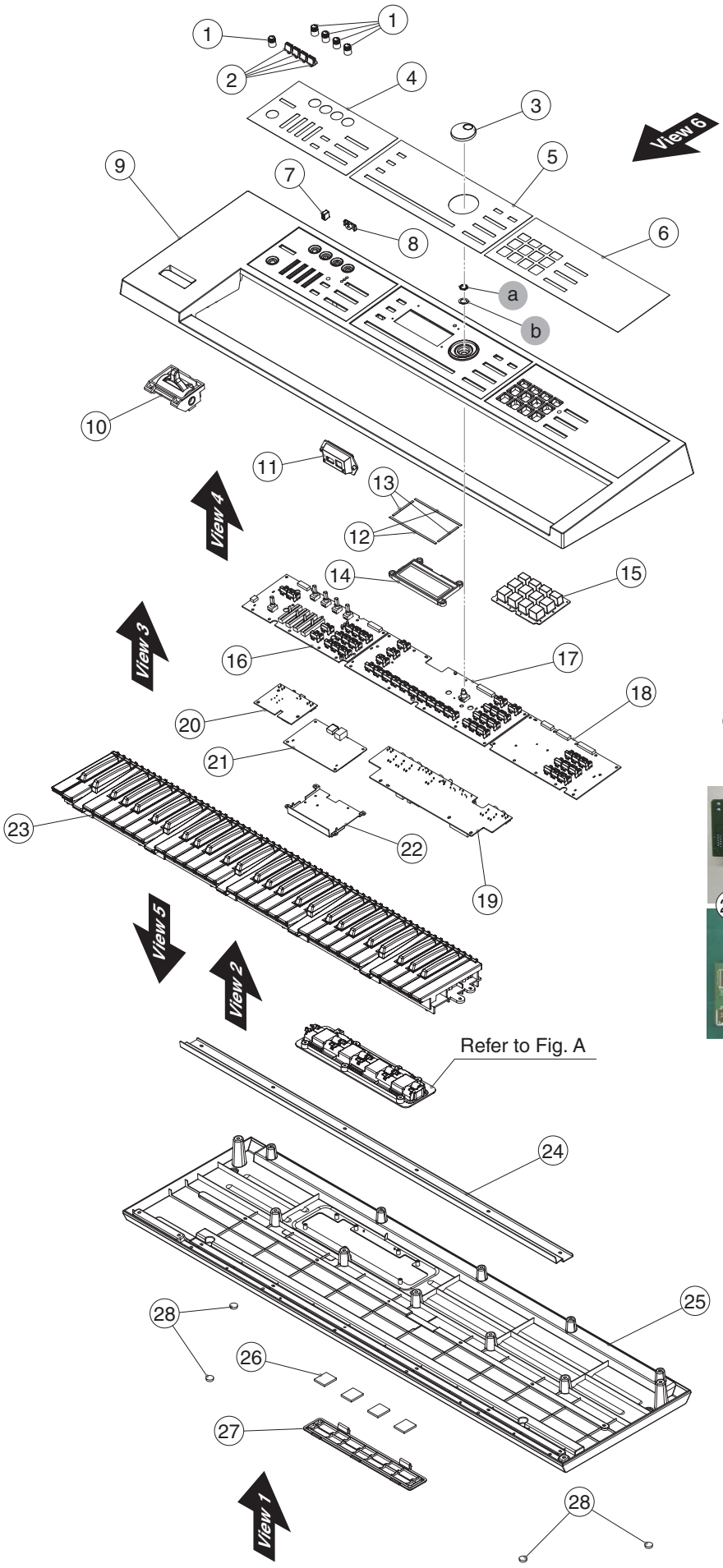
No.	Part Code	Part Name	Description	Q'ty
1	5100035158	ZS R-KNOB	SF BLK/LCG	5
	5100043853	ROTARY POTENTIOMETER	R09A1NOAV1P103FJ00CV	5
2	5100037191	J S-KNOB	M BLK/LCG	4
	5100046567	SLIDE POTENTIOMETER	C3080G1AV1B103BC50BF	4
3	04128090	D R-KNOB	L-ELA MNP(710-05045-10-00)	1
	03122134	ROTARY ENCODER	EC12E2420802	1
	* *This unit includes the following parts.*			
	********	Nut	(attached to Encoder)	
	********	Washer	(attached to Encoder)	
4	5100036236	LED	L-7104SRD-F	4
5	5100035722	ZS S-KEYTOP	SX1H BLK	14
	02781634	TACT SWITCH	SKRGAED010	14
6	5100035241	ZS S-KEYTOP	SD1H BLK	21
	02781634	TACT SWITCH	SKRGAED010	21
	5100008349	LED	L-132XIT	21
7	5100035241	ZS S-KEYTOP	SD1H BLK	1
	02781634	TACT SWITCH	SKRGAED010	1
	00127367	LED (RED/GREEN)	SPR-39MVW	1
8	5100035242	ZS S-KEYTOP	LD1H BLK	10
	02781634	TACT SWITCH	SKRGAED010	10
	5100008349	LED	L-132XIT	10
9	5100047063	RUBBER SW		1
10	5100046566	LCD	CMF2P2637-E	1
	5100047064	LCD CUSHION	LONG	2
	5100047065	LCD CUSHION	SHORT	2
11	5100035565	BENDER	PB-H0301-BK	1
12	5100047090	PANEL SHEET L		1
13	5100047092	PANEL SHEET C		1
14	5100047091	PANEL SHEET R		1

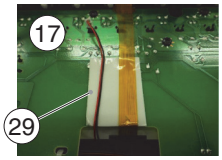
Location of Controls (Rear)

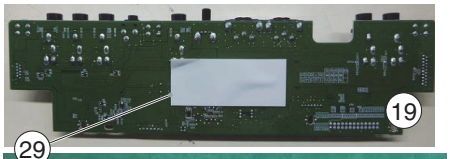


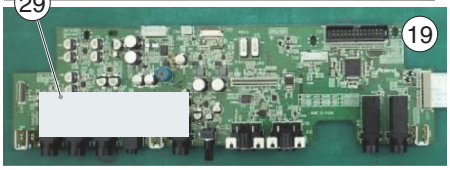
No.	Part Code	Part Name	Description	Q'ty
1	5100037825	G S-BUTTON	BLK (710-12058-15-00)	1
	04904123	PUSH SWITCH AC POWER SUPPLY	400-07040-01-00(PWL-2P2T-6SBP	1
2	13449720	DC JACK	HEC2305-016250	1
3	5100027106	CORD HOOK	40516-014	1
4	5100047086	USB CONNECTOR	U1F04D-B1N7S	1
5	5100047083	USB CONNECTOR	U7F04D-B1NB	1
6	02456390	3.5MM JACK	STEREO YKB21-5290	1
7	13449275	6.5MM JACK	YKB21-5074	6
8	04901712	ROTARY POTENTIOMETER	RK09K1110D4S	1
9	13429825	MIDI CONNECTOR	YKF51-5054V	1

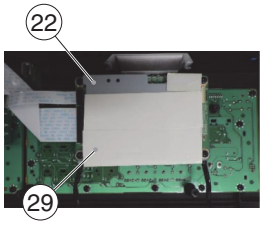
Exploded View











Exploded View Parts List

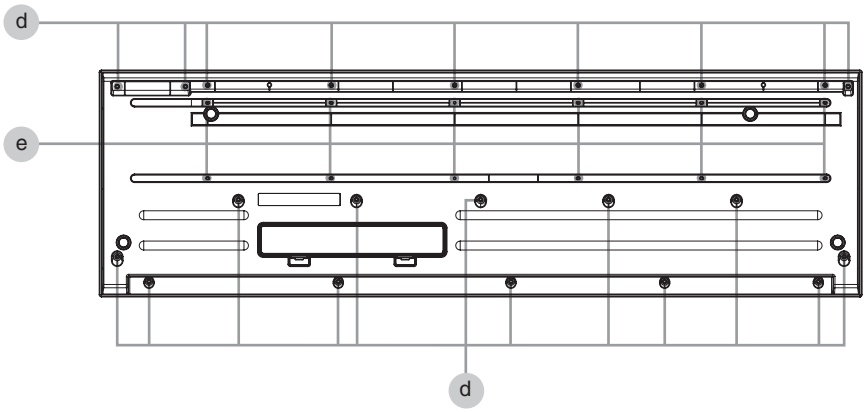
No.	Part Code	Part Name	Description	Q'ty
1	5100035158	ZS R-KNOB	SF BLK/LCG	5
2	5100037191	J S-KNOB	M BLK/LCG	4
3	04128090	D R-KNOB	L-ELA MNP(710-05045-10-00)	1
4	5100047090	PANEL SHEET L		1
5	5100047092	PANEL SHEET C		1
6	5100047091	PANEL SHEET R		1
7	5100037825	G S-BUTTON	BLK (710-12058-15-00)	1
8	5100027106	CORD HOOK	40516-014	1
9	5100047088	TOP CASE		1
10	5100035565	BENDER	PB-H0301-BK	1
11	5100046357	USB ESCUTCHEON		1
12	5100047064	LCD CUSHION	LONG	2
13	5100047065	LCD CUSHION	SHORT	2
14	5100046566	LCD	CMF2P2637-E	1
15	5100047063	RUBBER SW		1
	5100046397	PANEL SHEET ASSY		1
	* *This unit includes the following parts.*			
16	********	PANEL-L BOARD		1
17	********	PANEL-C BOARD		1
	5100046474	JACK SHEET ASSY		1
	* *This unit includes the following parts.*			
18	********	PANEL-R BOARD		1
19	********	JACK BOARD		1
20	********	POWER BOARD		1
21	5100046472	MAIN BOARD ASSY		1
22	5100004190	SHIELD COVER		1
23	04344189	KEYBOARD ASSY MSK-261	W/O CABLE	1
24	03894945	REINFORCE BAR	750-04038-02-00	1
25	5100004162	BOTTOM CASE	716-08052-02-00	1
26	5100006034	BATTERY CUSHION	(761-08052-01-00)	4
27	5100004164	BATTERY COVER	710-08052-02-00	1
28	12359137	RUBBER FOOT	SJ-5012 BLK	4
29	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M 10P 30CM	-
a	*******	Nut	(attached to Encoder)	1
b	*******	Washer	(attached to Encoder)	1

Disassembly Procedure

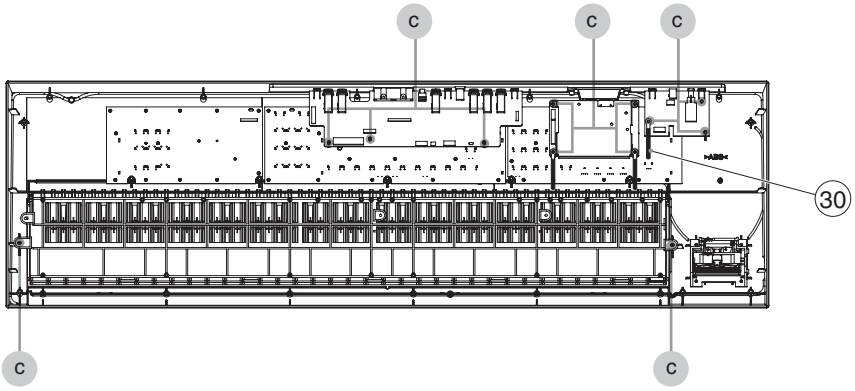
1. Remove all screws securing the Bottom Case from below. (**Plain View (1)** (p. 8), **View 1**-**d** and **e**)
2. Lift up the Bottom Case and disconnect the wiring connecting the Battery Case to the Power Board.
3. Remove the Bottom Case.

Plain View (1)

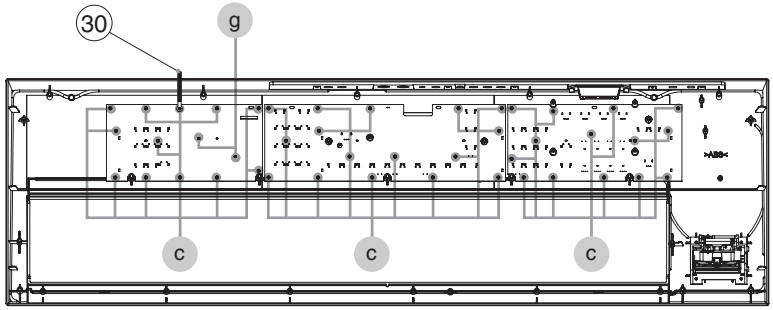
View 1



View 2



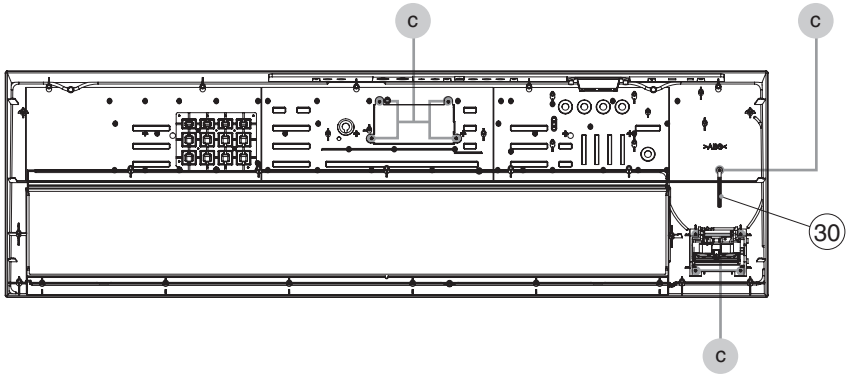
View 3



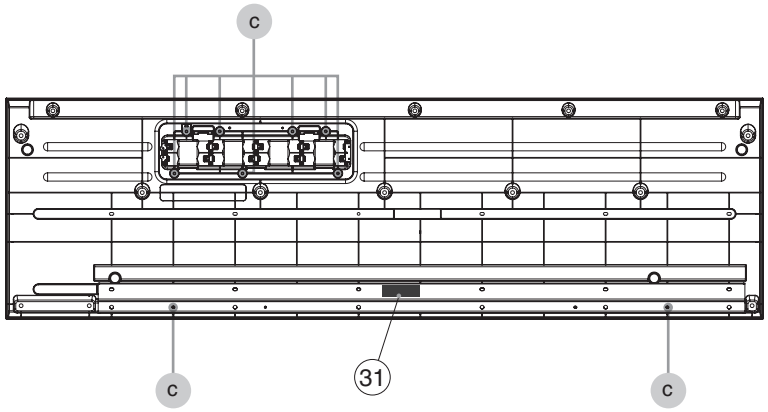
No.	Part Code	Part Name	Description	Q'ty
30	40120967	COATING CLIP	CS-3	4
c	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	54
d	40012490	SCREW 4X10	BINDING TAPTITE P BZC	21
e	40011334	SCREW 3X12	BINDING TAPTITE P FE BZC	12
g	40233012	SCREW 2.6X8	BINDING TAPTITE P BZC	2

Plain View (2)

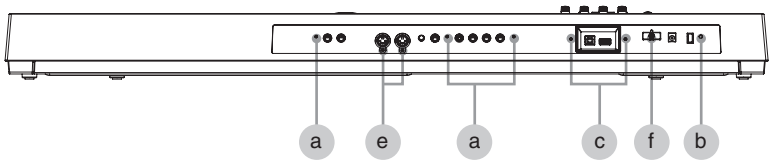
View 4



View 5



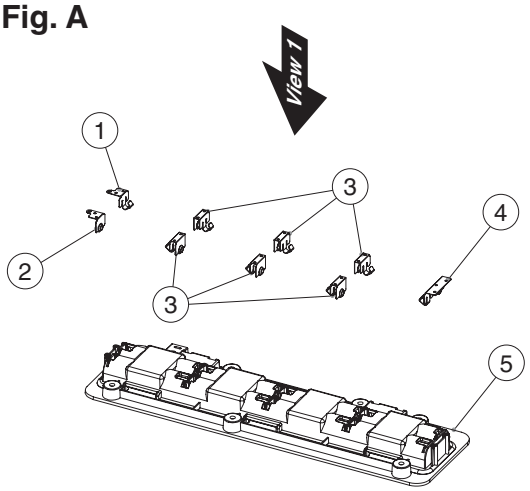
View 6



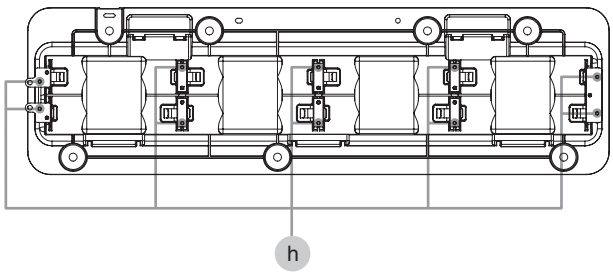
No.	Part Code	Part Name	Description	Q'ty
30	40120967	COATING CLIP	CS-3	1
31	40122812	ACETATE TAPE	NITTO #5 BLACK W15MM 30M	-
a	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC	3
b	40454856	SCREW M4X10	BINDING MACHINE NI	1
c	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC	20
e	40011334	SCREW 3X12	BINDING TAPTITE P FE BZC	2
f	5100034002	SCREW M3X12	PAN MACHINE W/SMW+PW BZC	1

Exploded View (Fig.A)

Fig. A

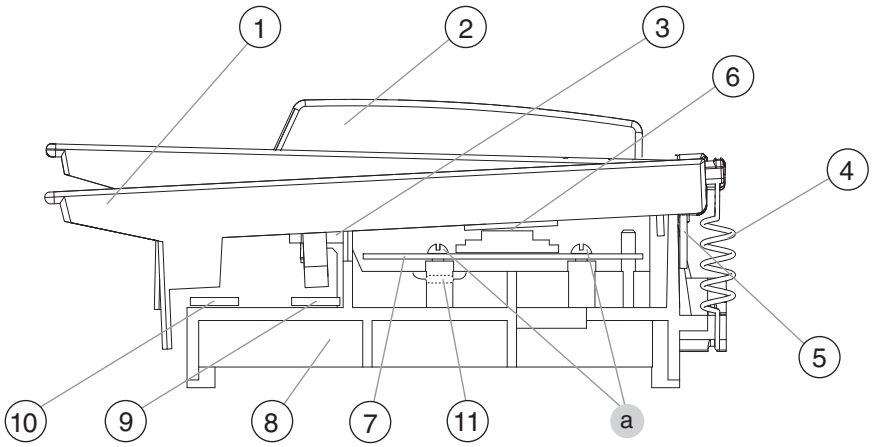


View 1



No.	Part Code	Part Name	Description	Q'ty
1	5100004224	BATTERY TERMINAL	MINUS(754-08052-01-00)	1
2	5100004223	BATTERY TERMINAL	PLUS(754-08052-02-00)	1
3	5100004226	BATTERY TERMINAL	PM B(754-08052-04-00)	6
4	5100004225	BATTERY TERMINAL	PM A(754-08052-03-00)	1
5	5100004163	BATTERY CASE	710-08052-01-00	1
h	5100000734	SCREW 1.4X6	PAN TAPTITE P FE BZC	10

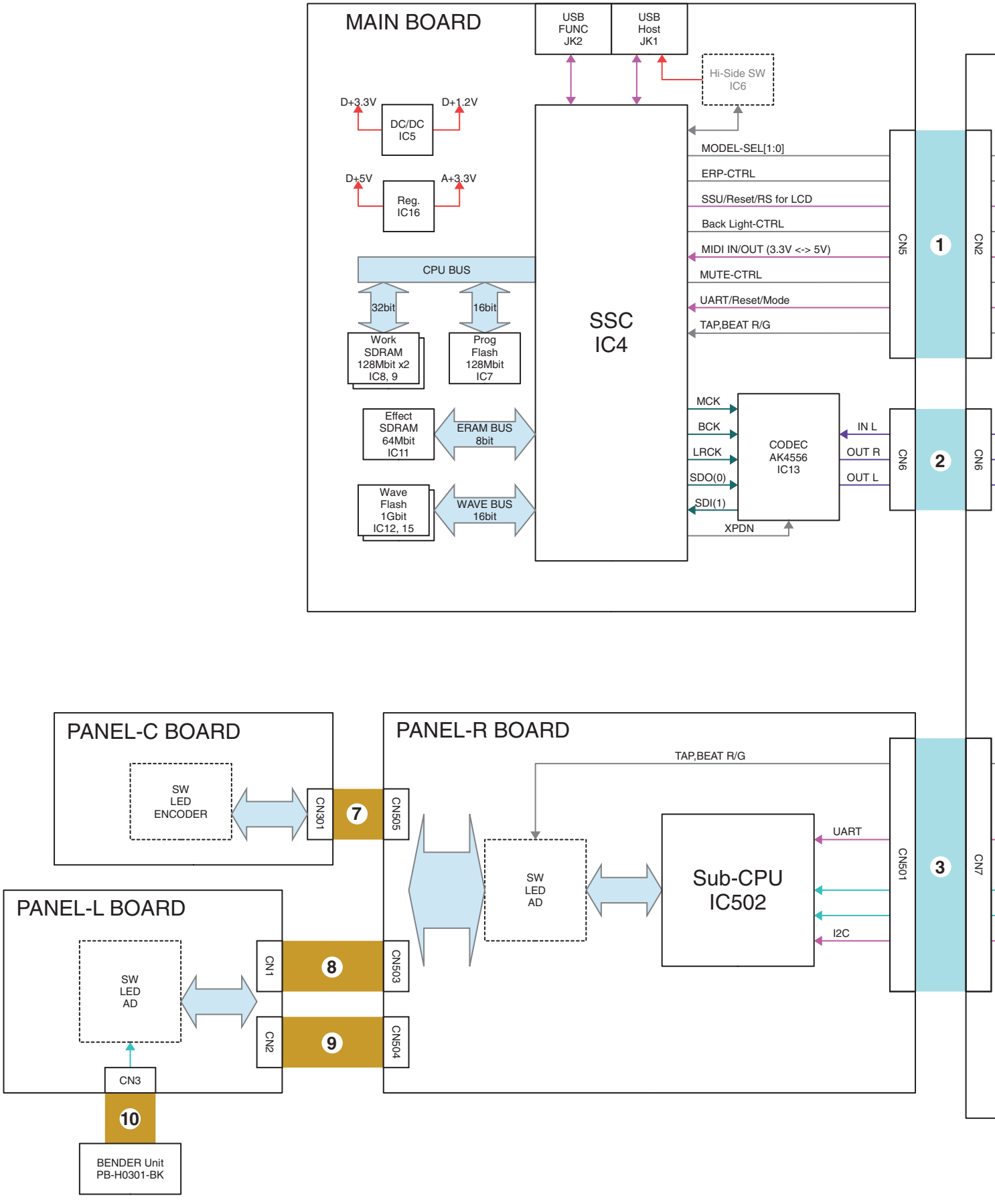
Keyboard Parts List (MSK-2)

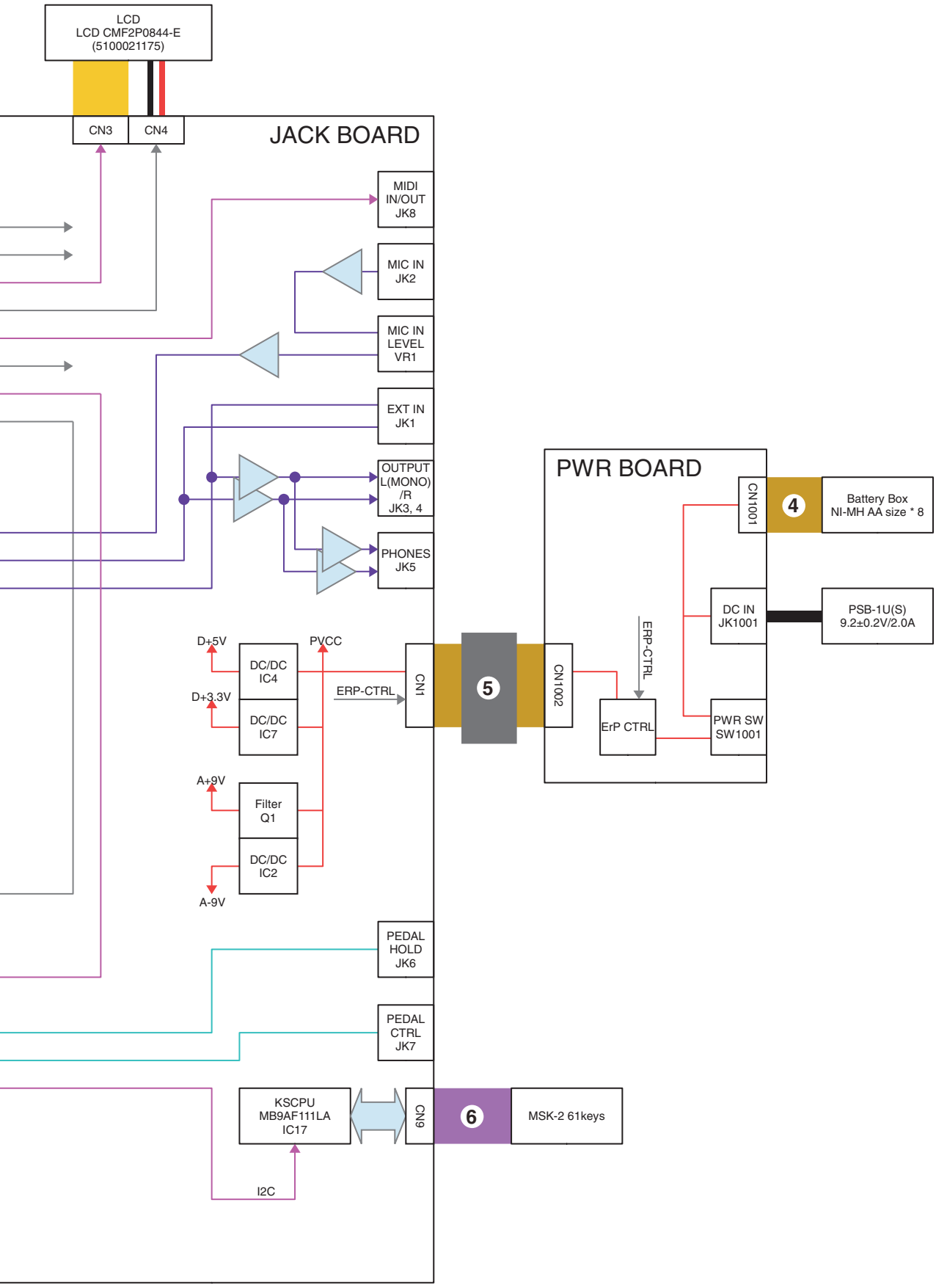


No.	Part Code	Part Name	Description	Q'ty
	04344189	KEYBOARD ASSY	MSK-261KEY (W/O CABLE)	
1	03786378	NATURAL KEY C	FOR MSK-2	5
	03786389	NATURAL KEY D	FOR MSK-2	5
	03786390	NATURAL KEY E	FOR MSK-2	5
	03786401	NATURAL KEY F	FOR MSK-2	5
	03786412	NATURAL KEY G	FOR MSK-2	5
	03786423	NATURAL KEY A	FOR MSK-2	5
	03786434	NATURAL KEY B	FOR MSK-2	5
	03786445	NATURAL KEY C'	FOR MSK-2	1
2	03786456	SHARP KEY	FOR MSK-2	25
3	03786312	KEY FELT	MSK-2 HOOK T2.0MM L828XW5.5	1
4	03456967	COILED SPRING	MSK-1 NATURAL KEY	36
	03456978	COILED SPRING	MSK-1 SHARP KEY	25
5	03786301	KEY FELT	MSK-2 BACK T4.0MM L840XW6.0	1
6	04230834	RUBBER SWITCH 12P	FOR MSK-1/MSK-2	4
	04230845	RUBBER SWITCH 13P	FOR MSK-1/MSK-2	1
7	03786345	PWB KEYBOARD LO ASSY	FOR MSK-2	1
	03786356	PWB KEYBOARD HI ASSY	FOR MSK-2	1
8	********	CHASSIS KEYBOARD	FOR MSK-2	1
9	03786334	KEY FELT	MSK-2 BOTTOM M T2.0MM L840XW10	1
10	03786323	KEY FELT	MSK-2 BOTTOM L T2.0MM L840XW15	1
11	5100029522	SWITCHING DIODE	1SS133 T-77	122
a	40011189	SCREW 3X8	PAN TAPTITE-P FE ZC	34

**The cable (#5100047841) is not included in this unit (#04344189).*

Wiring Diagram/Block Diagram




LCD
LCD CMF2P0844-E
(5100021175)
CN3
CN4
JACK BOARD
MIDI IN/OUT JK8
MIC IN JK2
MIC IN LEVEL VR1
EXT IN JK1
OUTPUT L(MONO) /R JK3, 4
PHONES JK5
D+5V
DC/DC IC4
PVCC
D+3.3V
DC/DC IC7
ERP-CTRL
CN1
5
CN1002
A+9V
Filter Q1
DC/DC IC2
A-9V
PEDAL HOLD JK6
PEDAL CTRL JK7
KSCPU MB9AF111LA IC17
CN9
6
MSK-2 61keys
I2C
PWR BOARD
CN1001
4
Battery Box NI-MH AA size * 8
DC IN JK1001
PSB-1U(S) 9.2±0.2V/2.0A
ERP-CTRL
ErP CTRL
PWR SW SW1001

Wiring Parts List

No.	Part Code	Part Name	Description	Q'ty
1	5100047853	FLAT CABLE	SML2CD-28X300-BDX8(BL)-P1.0-S	1
2	5100047850	FLAT CABLE	SML2CD-10X60-BDX8(BL)-P1.0-S4	1
3	5100047852	FLAT CABLE	SML2CD-20X120-BDX8(BL)-P1.0-S	1
4	5100047842	WIRING	W1 (BATTERY)	1
5	5100047847	WIRING	1007#22 5X320-XHP-XHP-F	1
	03901078	FERRITE-CORE	ZCAT1730-0730A-BK	1
6	5100047841	CA ASSY	26WAY 240+110MM W/3 HEADER	1
7	5100047845	WIRING	W4 (16X280-PHR)	1
8	5100047844	WIRING	W3 (12X460-PHR)	1
9	5100047843	WIRING	W2 (10X580-PHR)	1
10	5100047848	WIRING	1061#28 4X160-PHR-PHR-F	1

Parts List

Safety Precautions:
The parts marked ⚠ have safety-related characteristics. Use only listed parts for replacement.

Due to one or more of the following reasons, parts with parts code ******** cannot be supplied as service parts.
- Supply is prohibited due to copyright restrictions.
- It is carried in electronic data on the Roland web site.
- The part is made to order (at current market price).
- It can be replaced with an article on the market. (battery or etc.)
- It is a package or an accessory irrelevant to the function maintenance of the main body.
- A number of circuit boards are grouped together and supplied as a single circuit board (under a different part code).
- Reissuance is restricted.
- It is supplied as an assembled part (under a different part code).

Note: The parts marked # are new. (initial parts) The description "Q'ty" means a necessary number of the parts per one product.

CASING

#	5100047088	TOP CASE		1
	5100004162	BOTTOM CASE	716-08052-02-00	1
	5100004164	BATTERY COVER	710-08052-02-00	1

CHASSIS

	5100004190	SHIELD COVER		1
	03894945	REINFORCE BAR	750-04038-02-00	1
	5100004163	BATTERY CASE	710-08052-01-00	1

KNOB, BUTTON

	04128090	D R-KNOB	L-ELA MNP(710-05045-10-00)	1
	5100037191	J S-KNOB	M BLK/LCG	4
	5100035158	ZS R-KNOB	SF BLK/LCG	5
	5100037825	G S-BUTTON	BLK (710-12058-15-00)	1
	5100035722	ZS S-KEYTOP	SX1H BLK	14
	5100035241	ZS S-KEYTOP	SD1H BLK	22
	5100035242	ZS S-KEYTOP	LD1H BLK	10
#	5100047063	RUBBER SW		1

SWITCH

	02781634	TACT SWITCH	SKRGAED010	46
	04904123	PUSH SWITCH AC POWER SUPPLY	400-07040-01-00(PWL-2P2T-6SBP	1

JACK, EXT TERMINAL

	02456390	3.5MM JACK	STEREO YKB21-5290	1
	13449275	6.5MM JACK	YKB21-5074	6
	13449720	DC JACK	HEC2305-016250	1
	13429825	MIDI CONNECTOR	YKF51-5054V	1
#	5100047083	USB CONNECTOR	U7F04D-B1NB	1
#	5100047086	USB CONNECTOR	U1F04D-B1N7S	1

DISPLAY UNIT

#	5100046566	LCD	CMF2P2637-E	1

KEYBOARD ASSY

	04344189	KEYBOARD ASSY MSK-261	W/O CABLE	1

PWB ASSY

#	5100046472	MAIN BOARD ASSY		1
#	5100046474	JACK SHEET ASSY		1
	* *This unit includes the following parts.*			
	********	JACK BOARD		1
	********	PANEL-R BOARD		1
	********	POWER BOARD		1
#	5100046397	PANEL SHEET ASSY		1
	* *This unit includes the following parts.*			
	********	PANEL-L BOARD		1
	********	PANEL-C BOARD		1

DIODE

	00127367	LED (RED/GREEN)	SPR-39MVW	1
	5100036236	LED	L-7104SRD-F	4
	5100008349	LED	L-132XIT	31

POTENTIOMETER

	04901712	ROTARY POTENTIOMETER	RK09K1110D4S		1
	5100043853	ROTARY POTENTIOMETER	R09A1NOAV1P103FJ00CV		5
#	5100046567	SLIDE POTENTIOMETER	C3080G1AV1B103BC50BF		4

ENCODER

	03122134	ROTARY ENCODER	EC12E2420802		1

WIRING, CABLE

#	5100047841	CA ASSY	26WAY 240+110MM W/3 HEADER		1
#	5100047850	FLAT CABLE	SML2CD-10X60-BDX8(BL)-P1.0-S4		1
#	5100047852	FLAT CABLE	SML2CD-20X120-BDX8(BL)-P1.0-S		1
#	5100047853	FLAT CABLE	SML2CD-28X300-BDX8(BL)-P1.0-S		1
#	5100047847	WIRING	1007#22 5X320-XHP-XHP-F		1
#	5100047848	WIRING	1061#28 4X160-PHR-PHR-F		1
#	5100047842	WIRING	W1 (BATTERY)		1
#	5100047843	WIRING	W2 (10X580-PHR)		1
#	5100047844	WIRING	W3 (12X460-PHR)		1
#	5100047845	WIRING	W4 (16X280-PHR)		1

SCREWS

	40237101	SCREW M3X8	PAN MACHINE W/SW+SMALL PW BZC		3
	5100034002	SCREW M3X12	PAN MACHINE W/SMW+PW BZC		1
	40454856	SCREW M4X10	BINDING MACHINE NI		1
	5100000734	SCREW 1.4X6	PAN TAPTITE P FE BZC		10
	40233012	SCREW 2.6X8	BINDING TAPTITE P BZC		2
	40011312	SCREW 3X8	BINDING TAPTITE P FE BZC		74
	40011334	SCREW 3X12	BINDING TAPTITE P FE BZC		14
	40012490	SCREW 4X10	BINDING TAPTITE P BZC		21

MISCELLANEOUS

	5100035565	BENDER	PB-H0301-BK		1
#	5100047090	PANEL SHEET L			1
#	5100047092	PANEL SHEET C			1
#	5100047091	PANEL SHEET R			1
#	5100046357	USB ESCTUTCHEON			1
	03901078	FERRITE-CORE	ZCAT1730-0730A-BK		1
	5100027106	CORD HOOK	40516-014		1
	12359137	RUBBER FOOT	SJ-5012 BLK		4
	5100004223	BATTERY TERMINAL	PLUS(754-08052-02-00)		1
	5100004224	BATTERY TERMINAL	MINUS(754-08052-01-00)		1
	5100004225	BATTERY TERMINAL	PM A(754-08052-03-00)		1
	5100004226	BATTERY TERMINAL	PM B(754-08052-04-00)		6
	5100032738	TERMINAL	PCB-12(M4)		1
	5100003695	TERMINAL	PCB-12		4
	5100006034	BATTERY CUSHION	(761-08052-01-00)		4
#	5100047064	LCD CUSHION	LONG		2
#	5100047065	LCD CUSHION	SHORT		2
	40120967	COATING CLIP	CS-3		5
	40016534	INSULOK TIE 204M/M	T-18L		7
	40122812	ACETATE TAPE	NITTO #5 BLACK W15MM 30M		-
	40122556	DOUBLE FACED ADHESIVE TAPE	#575X W30MM 30M 10P 30CM		-

ACCESSORIES (Standard)

#	5100046932	OWNER'S MANUAL	ENGLISH		1
#	5100047509	OWNER'S MANUAL	CHINESE		1
⚠	04236101	AC ADAPTOR WITHOUT AC CORD	PSB-1U(S) UNIVERSAL		1
⚠	5100012293	AC CORD SET	117VBL 1.0M FOR PSB	for 117VBL	1
⚠	5100000692	AC CORD SET	117V U 1.0M	for 117VU, 117VU/CS	1
⚠	5100000564	AC CORD (CCC) 220V CN	452-04038-02-01	for 220VCN	1
⚠	5100039367	AC CORD	SP021A+IS037 220VK 2.5M 2P	for 220VK	1
⚠	5100018086	AC CORD SET	230VE 1.0M FOR EPS	for 230VE	1
⚠	05017301	AC CORD SET	230V 1.0M FOR EU	for 230VEU	1

Verifying the Version

1. Press **MENU**.
   The **MENU** screen appears.
2. Turn the encoder to select **SYSTEM**, then press **ENTER**.
   The **SYSTEM** screen appears.
3. Continue to hold down ▶ to select **INFORMATION**.
   The system version is displayed.
4. Press **EXIT** several times to return to the initial screen.

Data Backup and Restore Operations

Items Required

- USB memory device (recommended: M-UF2G)

Formatting a USB Memory Device

1. Connect a USB memory device to the **USB MEMORY** connector.
2. Press **MENU**.
   The **MENU** screen appears.
3. Turn the encoder to select **UTILITY**, then press **ENTER**.
   The **UTILITY** screen appears.
4. Turn the encoder to select **FORMAT USB MEMORY**, then press **ENTER**.
   A confirmation screen appears.
5. To format the USB memory device, press ▶ to select **OK**, then press **ENTER**. To cancel it, press **EXIT**.
   When formatting finishes, the display returns to the initial screen.

Data Backup Operations

1. Connect the formatted USB memory device to the **USB MEMORY** connector.
2. Press **MENU**.
   The **MENU** screen appears.
3. Turn the encoder to select **UTILITY**, then press **ENTER**.
   The **UTILITY** screen appears.
4. Turn the encoder to select **BACKUP**, then press **ENTER**.
   The **BACKUP NAME** screen appears.
5. Use the encoder, ▶ or ◀ to input the desired name, then press **ENTER**.
   A confirmation screen appears.
6. To execute the backup operation, press ▶ to select **OK**, then press **ENTER**. To cancel it, press **EXIT**.
   When the backup finishes, the display returns to the initial screen.
7. Detach the USB memory device.

Data Restore Operations

1. Connect the USB memory device containing the backed-up data to the **USB MEMORY** connector.
2. Press **MENU**.
   The **MENU** screen appears.
3. Turn the encoder to select **UTILITY**, then press **ENTER**.
   The **UTILITY** screen appears.
4. Turn the encoder to select **RESTORE**, then press **ENTER**.
   The **RESTORE** screen appears.
5. Select the backed-up file and press **ENTER**.
   A confirmation screen appears.
6. To execute the backup operation, press ▶ to select **OK**, then press **ENTER**. To cancel it, press **EXIT**.
   When the restore operation finishes, **Completed. Please Shut down.** is displayed.
7. Detach the USB memory device and turn off the power.

Performing a Factory Reset

1. Press **MENU**.
   The **MENU** screen appears.
2. Turn the encoder to select **UTILITY**, then press **ENTER**.
   The **UTILITY** screen appears.
3. Turn the encoder to select **FACTORY RESET**, then press **ENTER**.
   A confirmation screen appears.
4. To execute the factory reset, press ▶ to select **OK**, then press **ENTER**.
   To cancel it, press **EXIT**.
   When the factory reset has finished, **Completed. Please Shut down.** is displayed.
5. Switch off the power.

Updating the System

Items Required

- Computer
- USB memory device (recommended: M-UF2G)
- Update program (obtained via Service Net)

Procedure

1. Format the USB memory device. (Refer to **Formatting a USB Memory Device** (p. 17).)
2. Copy the update program (xps30_up.bin) to the root directory of the USB memory device just described.
3. While the power to the unit is switched off, insert the USB memory device just described into the **USB MEMORY** connector.
4. Hold down **TAP** and switch on the power.
   The update starts automatically.

   * *Never switch off the power or detach the USB memory device while the update is in progress. Doing so may cause malfunction.*

   When **finished.** appears, the update has finished.
5. Detach the USB memory device and reset the power.
6. Verify that the version has been updated. (Refer to **Verifying the Version** (p. 17).)

Test Mode

Items Required

- Computer (running Windows 7)
- USB memory device (recommended: M-UF2G)
- USB cable
- MIDI cable

- EV-5 (x 2)

* *Adjust the minimum volume knob to **0**.*

- Stabilized power supply unit or AC adaptor (PSB-1U(S))
- Oscillator
- Oscilloscope
- Noise meter
- Tester
- Headphones
- UA-1G (or other UA series device)

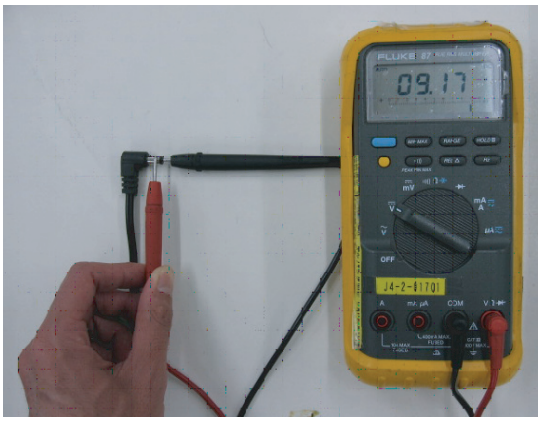
- USB driver
  Obtain this from the following web pages, and install it on the computer just described.
  http://www.roland.com/
  http://www.roland.com/

- KY007_01_EXT.WAV
- KY007_02_MIC.WAV
- KY007_03_USB.WAV
  Obtain via Service Net, and copy it on the computer just described.

Preparation

Voltage Measurement of the AC Adaptor

When the stabilized power supply unit is not available, measure the output voltage of the AC adaptor. The measured value is used in **14. BATT ADJ** (p. 20) and **16. BATT CHK** (p. 21).



Connections

1. Connect a USB memory device to the **USB MEMORY** connector.
2. When the stabilized power supply unit is used for power supply, adjust the output voltage of the stabilized power supply unit to **DC 9.0 V**.
3. Connect the stabilized power supply unit or the AC adaptor which output voltage has been measured to the **DC IN** connector.

Entering the Test Mode

Hold down ▲, ▼ and ~~SYNC~~ DRUMS and switch on the power.

* *Continue to hold down the three buttons above until the version is displayed on the screen.*

Quitting the Test Mode

Switch off the power.

Skipping Test Items

SHIFT + ▶ :This forces execution to advance to the next test item.
SHIFT + ◀ :This forces execution to return to the previous test item.

SHIFT + **MENU**:The test item select screen appears.
Use ▲, ▼, or the encoder to select the test item, then press **ENTER** to jump to the item.

* *Some test items cannot be accomplished correctly unless testing is performed in sequence.*

* *If pressing **SHIFT** + **MENU** in some test items, you can not return to the test item select screen.*

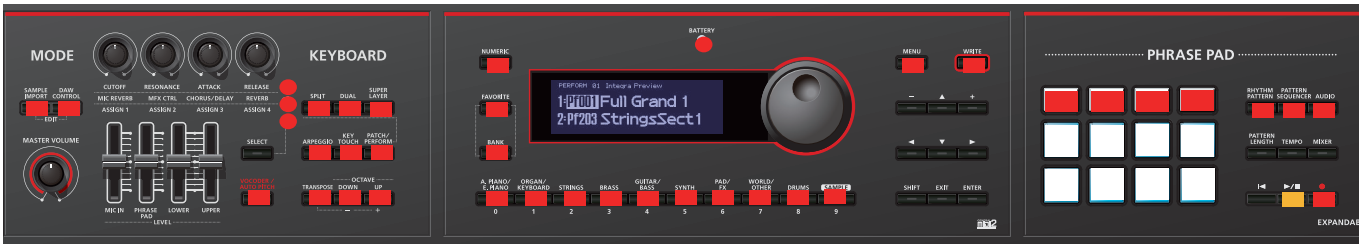
Test Items

1. VERSION

This verifies the version of the program.

1. Verify the version of the program displayed on the screen.

2. Verify that each LED lights up as shown in the figure below.



Red
Orange (Red + Green)
White (Red + Green + Blue)

3. Press ▶ to advance to the next test item.

2. DEVICE

Various devices are checked automatically.

1. Flash
2. SDRAM1
3. SDRAM2
4. FX-RAM
5. WROM 1
6. WROM 2
7. WROM 3
8. KEYSCAN
9. SUBCPU
10. USB H

The test result (**OK** or **NG** (not OK)) is displayed next to the corresponding device.
If all devices are **OK**, detach the USB memory device. After several seconds, execution automatically advances to the next test item.

The check results for the entire Wave ROM area are not displayed here. Checking starts here and continues in the background while the other tests are executed. For the test results, check **17. WAVE** (p. 21).

3. MIDI IO

This verifies the operations of the MIDI IN and OUT connectors.

1. Using the MIDI cable, connect the **MIDI IN** and **MIDI OUT** connectors.
The message **Connect** is displayed.

2. Detach the MIDI cable.
Disconnect is displayed, and execution automatically advances to the next test item.

4. ENCODER

This verifies the operation of the encoder.

1. Turn the encoder counterclockwise.
The value on the screen decreases from **48** to **0** in sequence.

2. Turn the encoder clockwise.
The value on the screen increases from **0** to **48**, then **OK** is displayed and execution automatically advances to the next test item.

5. SW/LED

This verifies the operations of LED-equipped switches.

Press each button whose LED lights up in sequence and verify that the value displayed on the screen increases.

* *When **SELECT** is pressed, the next LEDs of the words of **RELEASE**, **REVERB** and **ASSIGN** go dark. Press each pad of **1** through **8** three times and verify that they light up red, green and blue. Pressing ● makes the **BATTERY** LED go dark.*

When all buttons have been pressed, execution automatically advances to the next test item.

6. SW

This verifies the operations of switches that have no LED.

1. Press the following buttons in sequence.

* *The name and location of buttons are displayed on the screen.*

SELECT
-, ▲, **+**, ◀, ▼, ●, **SHIFT**, **EXIT**, **ENTER**
PATTERN LENGTH, **TEMPO**, **MIXER**, |◀, ▶/■ and ●

When all buttons have been pressed, execution automatically advances to the next test item.

7. LCD

This verifies the display of the screen.

1. Press **ENTER** to switch the four display patterns below and verify that each screen is free of dot drop-out or grime.
   grille, four grayscale, all dots white and all dots black
2. Press **ENTER**.
   Characters of **F** are displayed by maximum contrast.
3. Turn the encoder and verify that the contrast changes.
4. Press **ENTER**.
   Characters of **F** are displayed in the state that backlight disappears.
5. Turn the encoder and verify that the brightness of the backlight changes.
6. Press **ENTER**.
7. Press ▶ to advance to the next test item.

8. A/D

This verifies the operations of the pitch bend/modulation lever, volumes and pedals.

When this test item is enabled, the midpoint calibration of the pitch bender is executed. Do not touch the pitch bend/modulation lever. Enabling this test item while the pitch bend/modulation lever is at an angle causes the message **BEND ADJ ERR!** to appear. In this case, re-enter the test item while the pitch bend/modulation lever is not touched.

1. Connect the EV-5 to the **PEDAL CONTROL** jack and the **PEDAL HOLD** jack.
2. Operate each component highlighted on the screen from minimum to maximum, and verify that the value displayed on the screen changes from **0** to **127**.
   * *On the screen, **RVR** means round knob and **SVR** means slide knob.*
   * *For the pitch bender, also verify the midpoint (**64**).*

   If **OK** are indicated for all components, testing automatically advances to the next test item.
3. Detach the EV-5.

9. PHONES

This verifies the operation of the PHONES jack.

1. Connect the oscilloscope to the **PHONES** jack, then verify that signals like the ones shown below are output.
   PHONES L: 1-kHz sine wave at 13.0±2.0 Vpp
   PHONES R: 2-kHz sine wave at 13.0±2.0 Vpp
2. Detach the oscilloscope.
3. Press ▶ to advance to the next test item.

10. OUTPUT

This verifies the operations of the **OUTPUT L/MONO** and **R** jacks.

1. Connect the oscilloscope to the **OUTPUT L/MONO** and **R** jacks, and verify that signals like the ones shown below are output.
   L/MONO: 1-kHz sine wave at 12.0±2.0 Vpp
   R: 2-kHz sine wave at 12.0±2.0 Vpp
   * *When verifying the signal of the **OUTPUT L/MONO** jack, connect a plug also to the **OUTPUT R** jack.*
2. Disconnect the plug from the **OUTPUT R** jack and verify that the L and R signals just described above are changed to a mixed signal.
3. Press ▶ to advance to the next test item.

11. EXT IN

This verifies the operation of the **EXT INPUT** jack (stereo miniature).

1. Connect the UA-1G connected to the computer to the **EXT INPUT** jack and play KY007_01_EXT.WAV on the computer.
   Alternatively, connect the oscillator to the **EXT INPUT** jack and input signals like the ones shown below.
   EXT L: 1-kHz sine wave at 2.5±0.3 Vpp (0.2±1 dBm)
   EXT R: 2-kHz sine wave at 2.5±0.3 Vpp (0.2±1 dBm)
2. Verify that signals like the ones shown below are output from the **OUTPUT L/MONO** and **R** jacks.
   L/MONO: 1-kHz sine wave at 9.0±2.0 Vpp
   R: 2-kHz sine wave at 9.0±2.0 Vpp
3. Disconnect the cable from the **EXT INPUT** jack.
4. Press ▶ to advance to the next test item.

12. MIC IN

This verifies the operation of the MIC INPUT jack (monaural).

1. Adjust the **MIC LEVEL** knob to **MAX**.
2. Connect the UA-1G connected to the computer to the **MIC INPUT** jack and play KY007_02_MIC.WAV on the computer.
   Alternatively, connect the oscillator to the **MIC INPUT** jack and input signals like the ones shown below.
   1-kHz sine wave at 25±1.5 mVpp (-40.6±1 dBm)
3. Verify that signals like the ones shown below are output from the **OUTPUT L/MONO** and **R** jacks.
   L/MONO: 1-kHz sine wave at 10.0±2.0 Vpp
   R: 1-kHz sine wave at 10.0±2.0 Vpp
4. Turn the **MIC LEVEL** knob and verify that the output level changes.
5. Disconnect the cable from the **MIC INPUT** jack.
6. Press ▶ to advance to the next test item.

13. USB AUDIO

This verifies the operation of the USB COMPUTER connector.

1. Connect the computer to the **USB COMPUTER** connector.
2. Play KY007_03_USB.WAV on the computer.
3. Verify that signals like the ones shown below are output from the **OUTPUT L/MONO** and **R** jacks.
   L/MONO: 1-kHz sine wave at 12.0±2.0 Vpp
   R: 2-kHz sine wave at 12.0±2.0 Vpp
4. Detach the PC and the oscilloscope.
5. Press ▶ to advance to the next test item.

14. BATT ADJ

This adjusts the battery voltage.

1. When the stabilized power supply unit is used for power supply, turn the encoder to adjust the value displayed on the screen to the output voltage of the stabilized power supply unit (**9.0 V**).
   When the AC adaptor is used for power supply, adjust the value displayed on the screen to the value which is measured at **Voltage Measurement of the AC Adaptor** (p. 18).
2. Hold down **SHIFT** and press **WRITE**.
   When the voltage has been adjusted to within the correct range, execution automatically advances to the next test item. If adjustment is not within the correct range, execution does not advance to the next test item.

15. BATTERY

* *When the stabilized power supply unit is used for power supply, execute this test item. When the AC adaptor is used, skip this item by* ***Shift*** + ▶ .

This verifies the detect operation of the battery voltage.

1. Set the output voltage of the stabilized power supply unit to **8.40±0.1 V**.
   Status: CAUTION is displayed on the screen.
   * *It takes several seconds until the voltage is detected.*
2. Set the output voltage of the stabilized power supply unit to **8.10±0.1 V**.
   Status: WARNING is displayed on the screen.
3. Set the output voltage of the stabilized power supply unit to **7.60±0.1 V**.
   Status: UNCONTROL is displayed on the screen.
4. Set the output voltage of the stabilized power supply unit to **9.0 V**.
   Status: NORMAL is displayed on the screen and execution automatically advances to the next test item.
   * *If execution does not automatically advance to the next test item, go back to* ***14. BATT ADJ*** *(p. 20) and execute the adjust operation again.*

16. BATT CHK

* *When the AC adaptor is used for power supply, execute this test item. When the stabilized power supply unit is used, skip this item by* ***Shift*** + ▶ .

This verifies that the voltage of the battery is adjusted to the correct value.

1. Turn the encoder to adjust the value displayed on the screen to the value which is measured at **Voltage Measurement of the AC Adaptor** (p. 18).
2. Press **ENTER**.
   If no problem is found, execution automatically advances to the next test item.
   * *If* ***Error*** *is displayed and execution does not automatically advance to the next test item, go back to* ***14. BATT ADJ*** *(p. 20) and execute the adjust operation again.*

17. WAVE

This verifies the test results for the entire Wave ROM area.

The test was started when **2. DEVICE** (p. 19) was selected. If **2. DEVICE** was not selected, the test starts at the time that this **17. WAVE** is selected. Wait for the test to finish.

When **OK**s appear on both **WAVE ROM1** and **2**, press ▶ to advance to the next test item.

18. MUTE

This verifies the operation of the MUTE.

1. Connect the headphones to the **PHONES** jack.
   Demo song is played back.
2. Verify that sound is muted only when **ENTER** is pressed.
3. Press ▶ to advance to the next test item.

19. KEYBOARD

This verifies the operation of the keyboard.

1. Play the keyboard and verify that piano sound is produced.
2. For all keys, verify that the volume changes according to the velocity with which the keys are played.
3. Press **+** to advance to verification of organ sound.
4. Play the keyboard and verify that organ sound is produced.
5. Disconnect the headphones.
6. Press ▶ to advance to the next test item.

20. NOISE

This measures the residual noise level.

1. Adjust the **MASTER VOLUME** knob to the maximum.
2. Connect the noise meter to the **OUTPUT L/MONO** and **R** jacks, and verify that residual noises of L and R are both **-80 dBm** or lower (DIN-Audio).
3. Connect the noise meter to the **PHONES** jack (L and R), and verify that residual noises of L and R are both **-70 dBm** or lower (DIN-Audio).
4. Press ▶ to advance to the next test item.

21. FACTORY

This executes a Factory Reset.

Pressing **ENTER** executes the factory reset.
If the test is passed, execution automatically advances to the next test item.

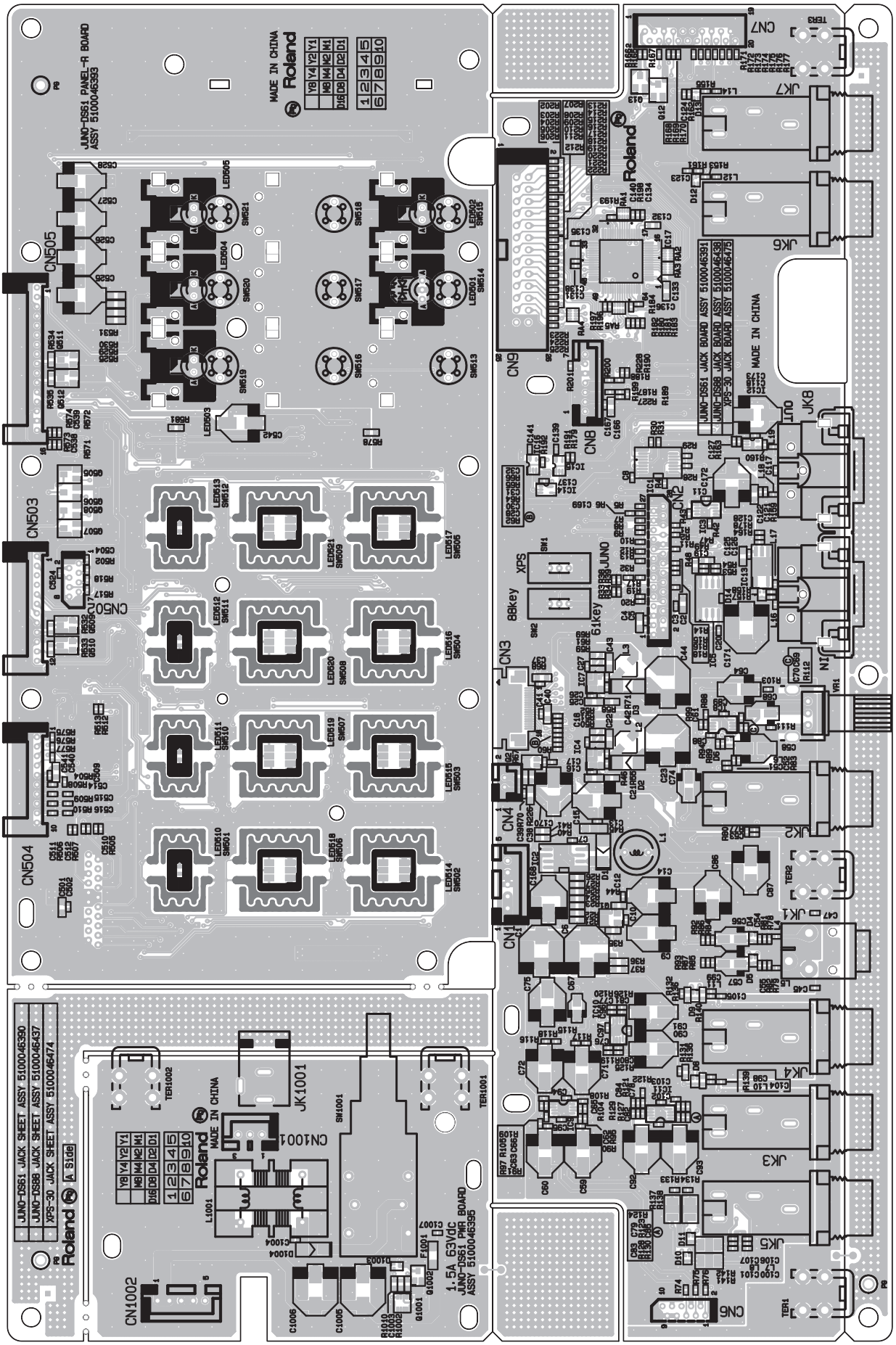
22. ErP Check

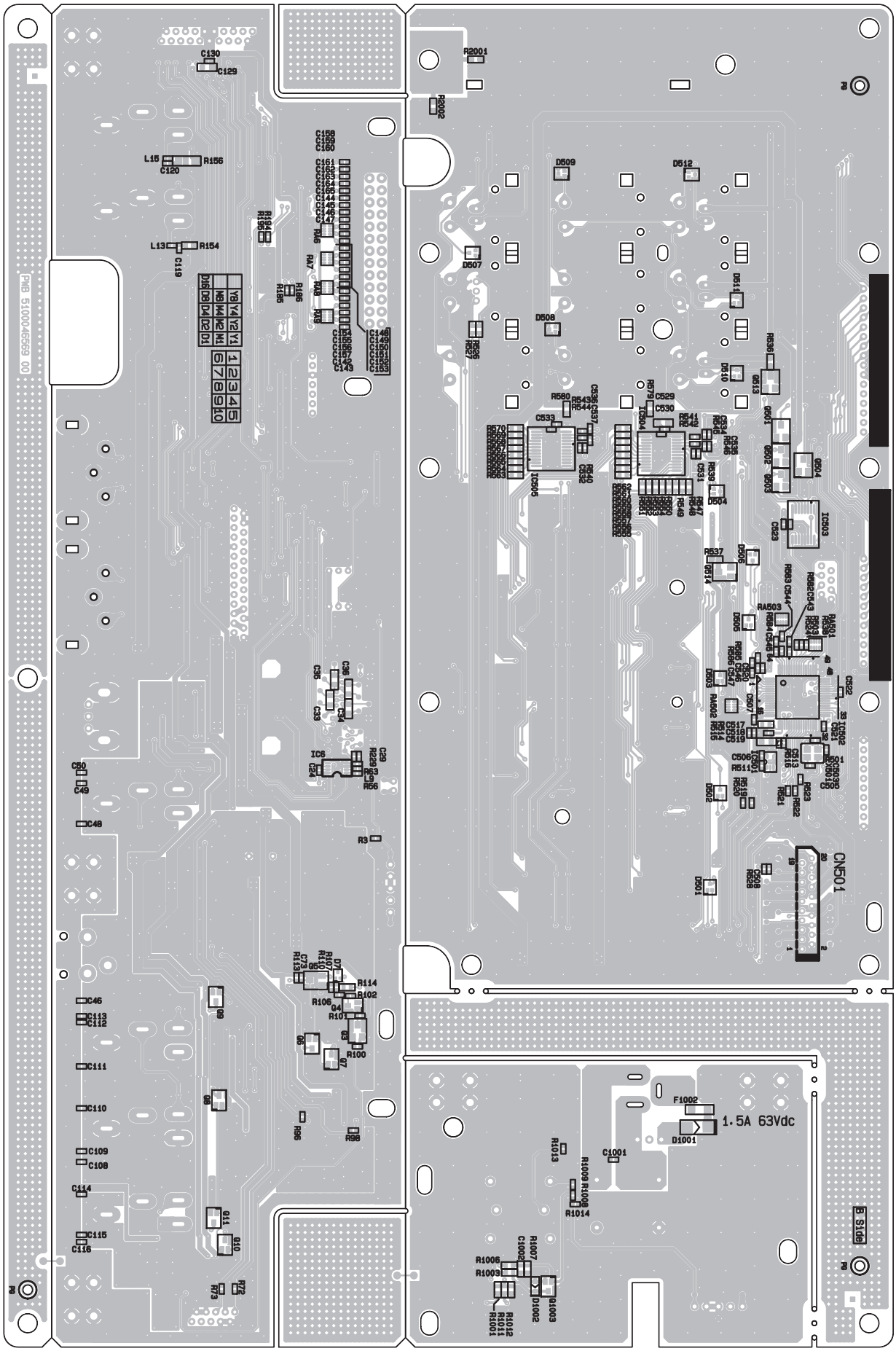
This verifies the operation of the auto off circuit of the power supply.

1. Press **ENTER**.
   The power is switched off.
2. Return the power button to the off position.

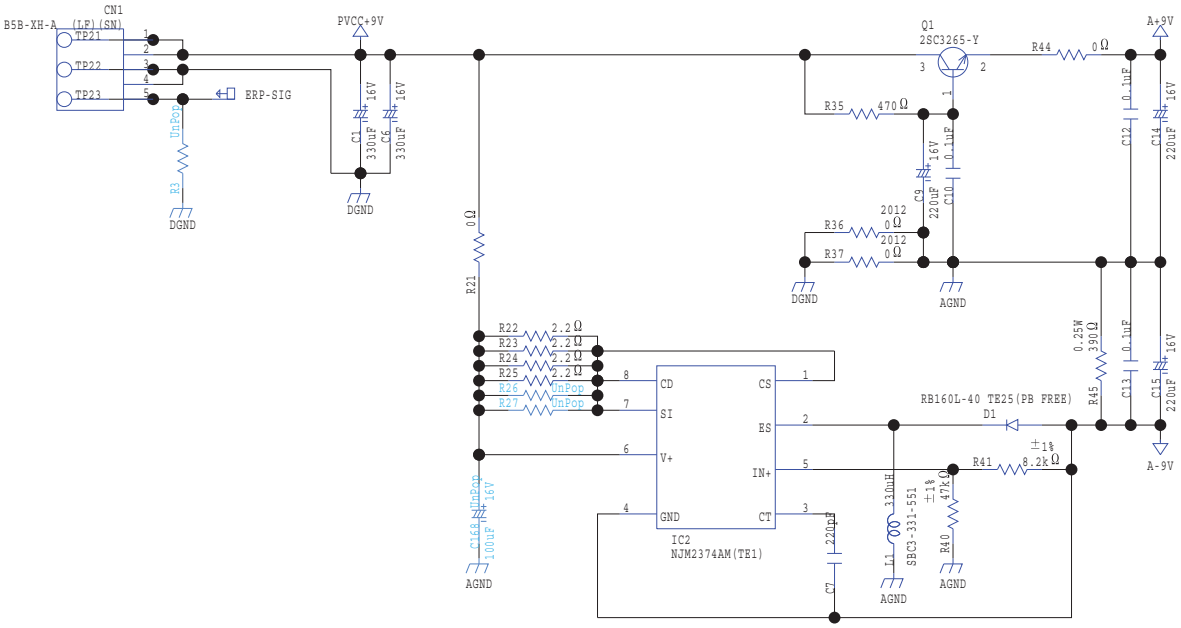
This ends the Test Mode.

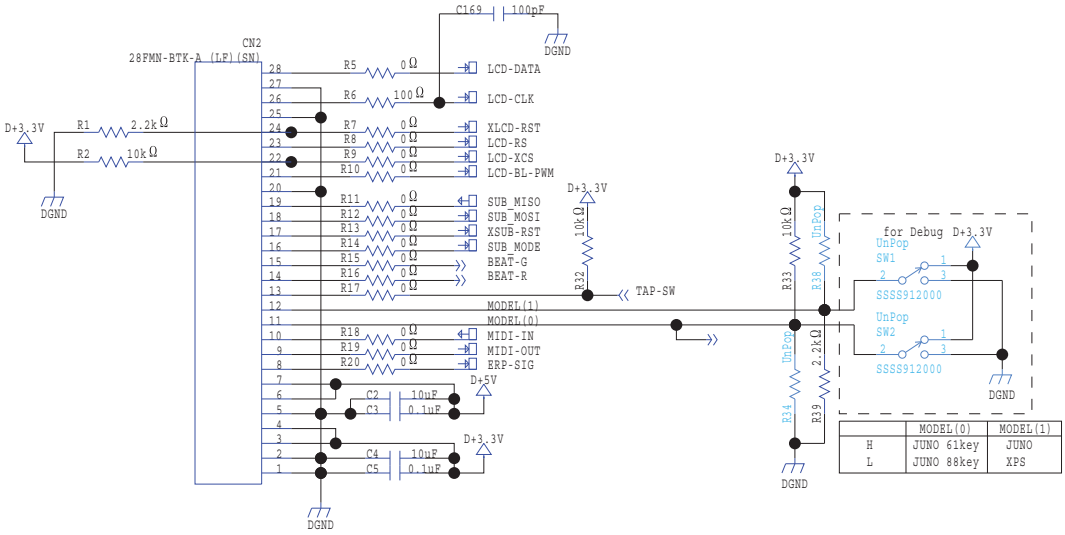
Circuit Board (Jack, Panel-R, Power Board)



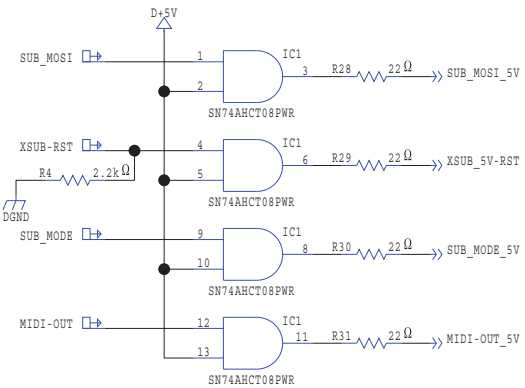

CN501
F1002
1.5A 63Vdc
D1001
S109

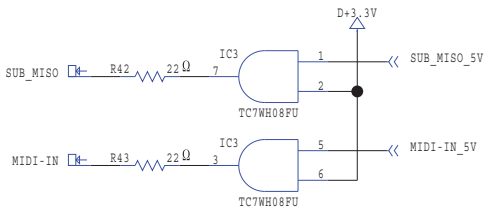
Circuit Diagram (Jack Board: 1/3)

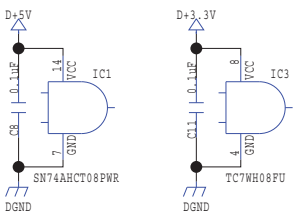


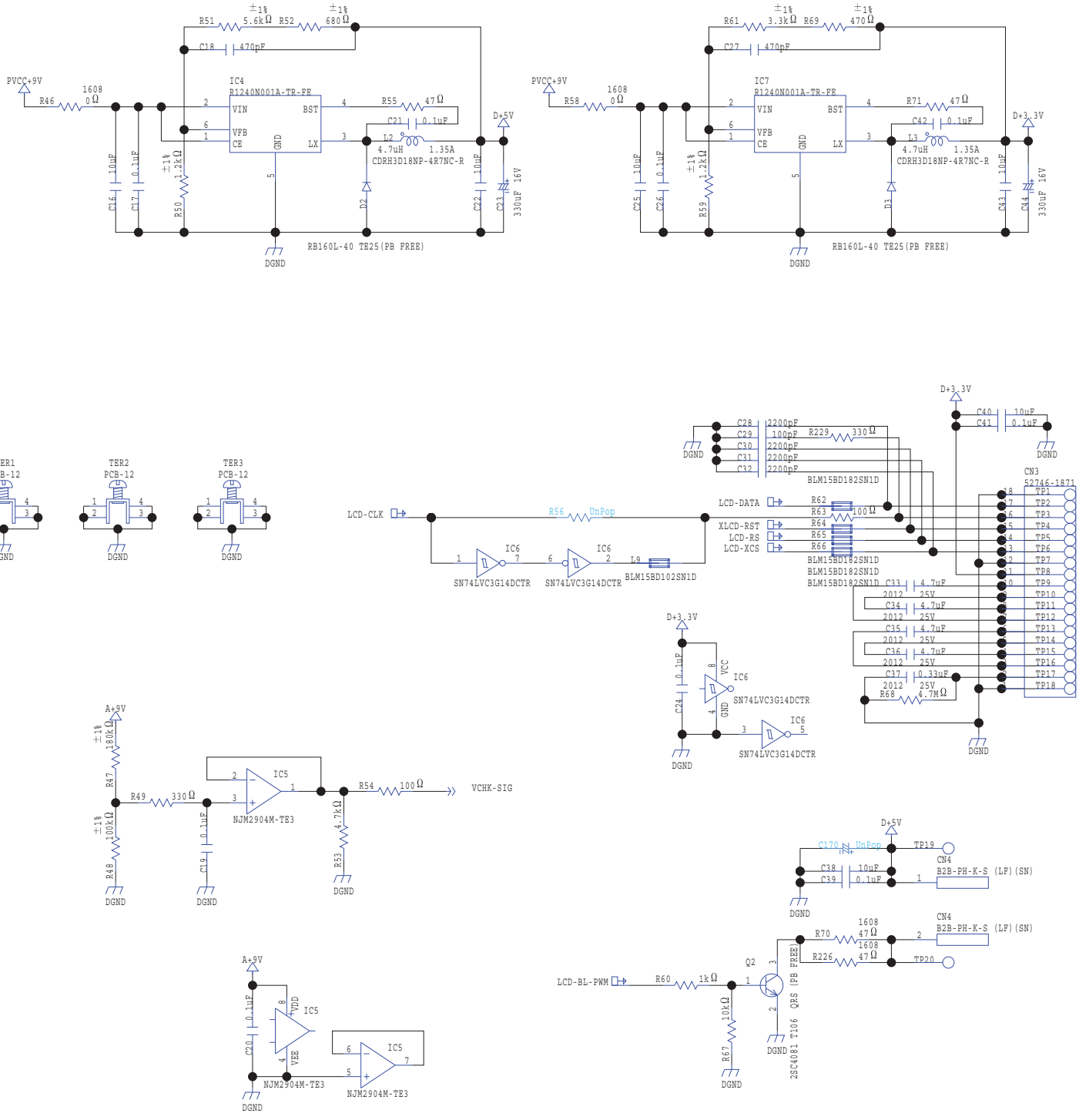


	MODEL(0)	MODEL(1)
H	JUNO 61key	JUNO
L	JUNO 88key	XPS



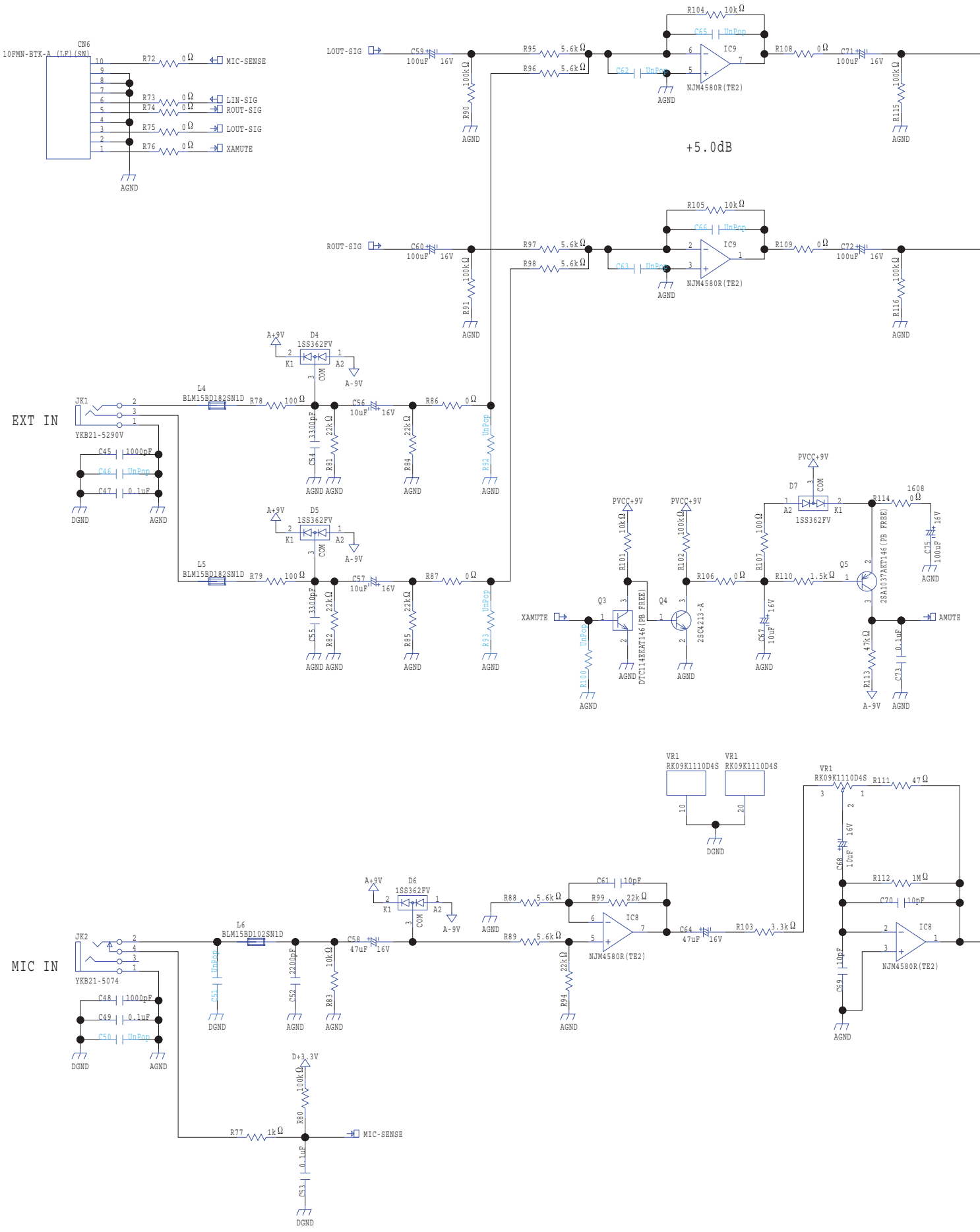


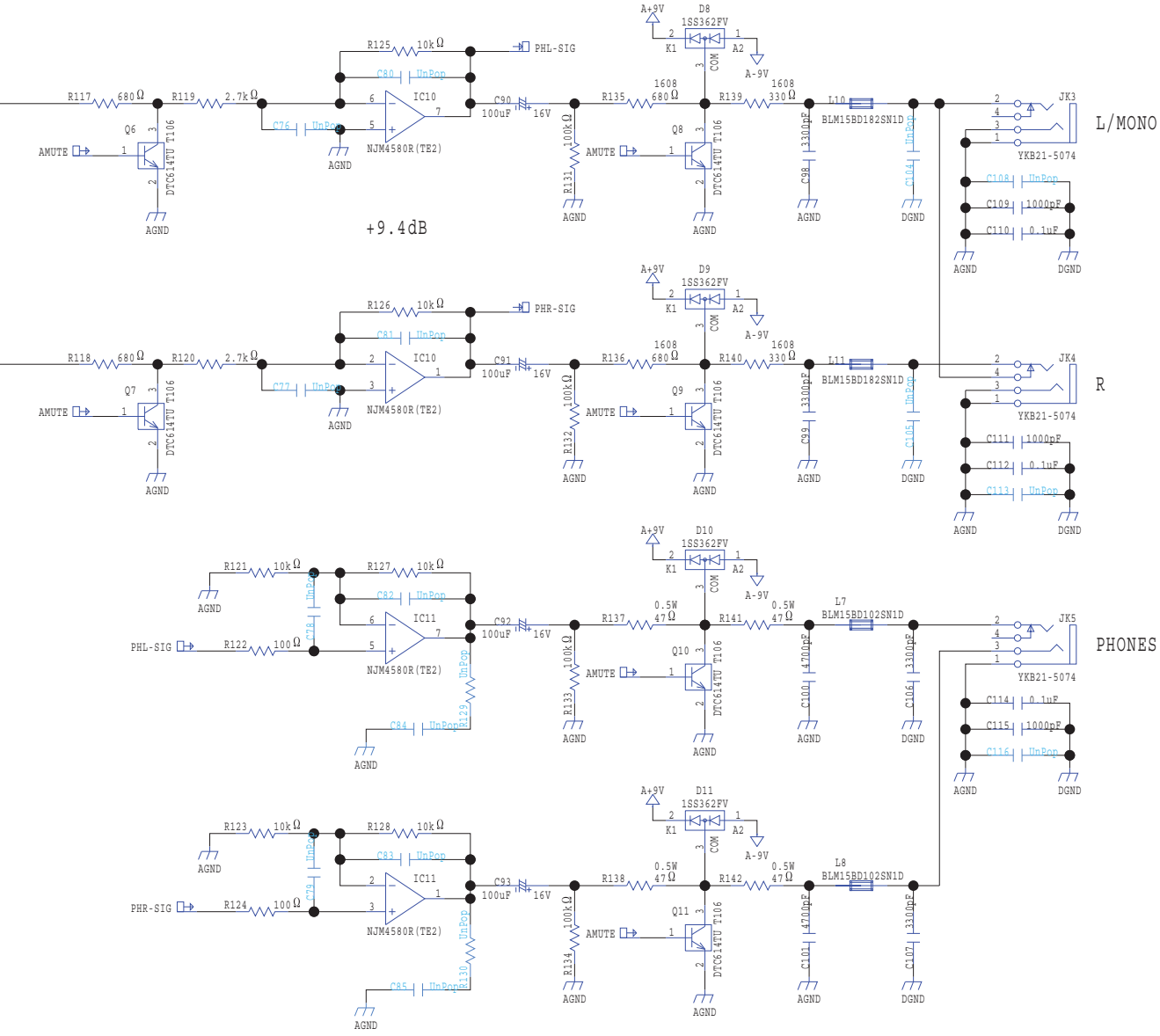




"UnPop" means "Unpopulated".

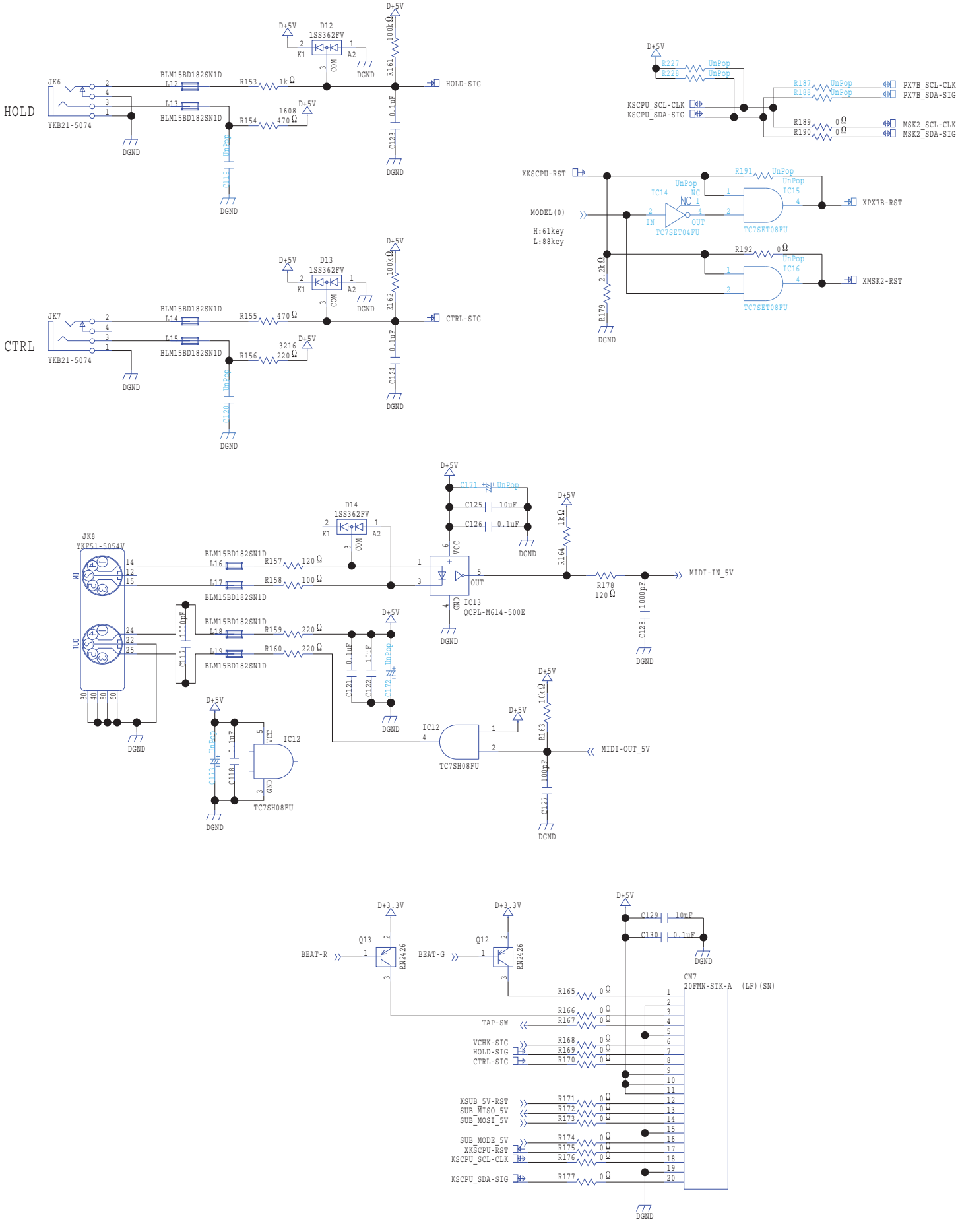
Circuit Diagram (Jack Board: 2/3)

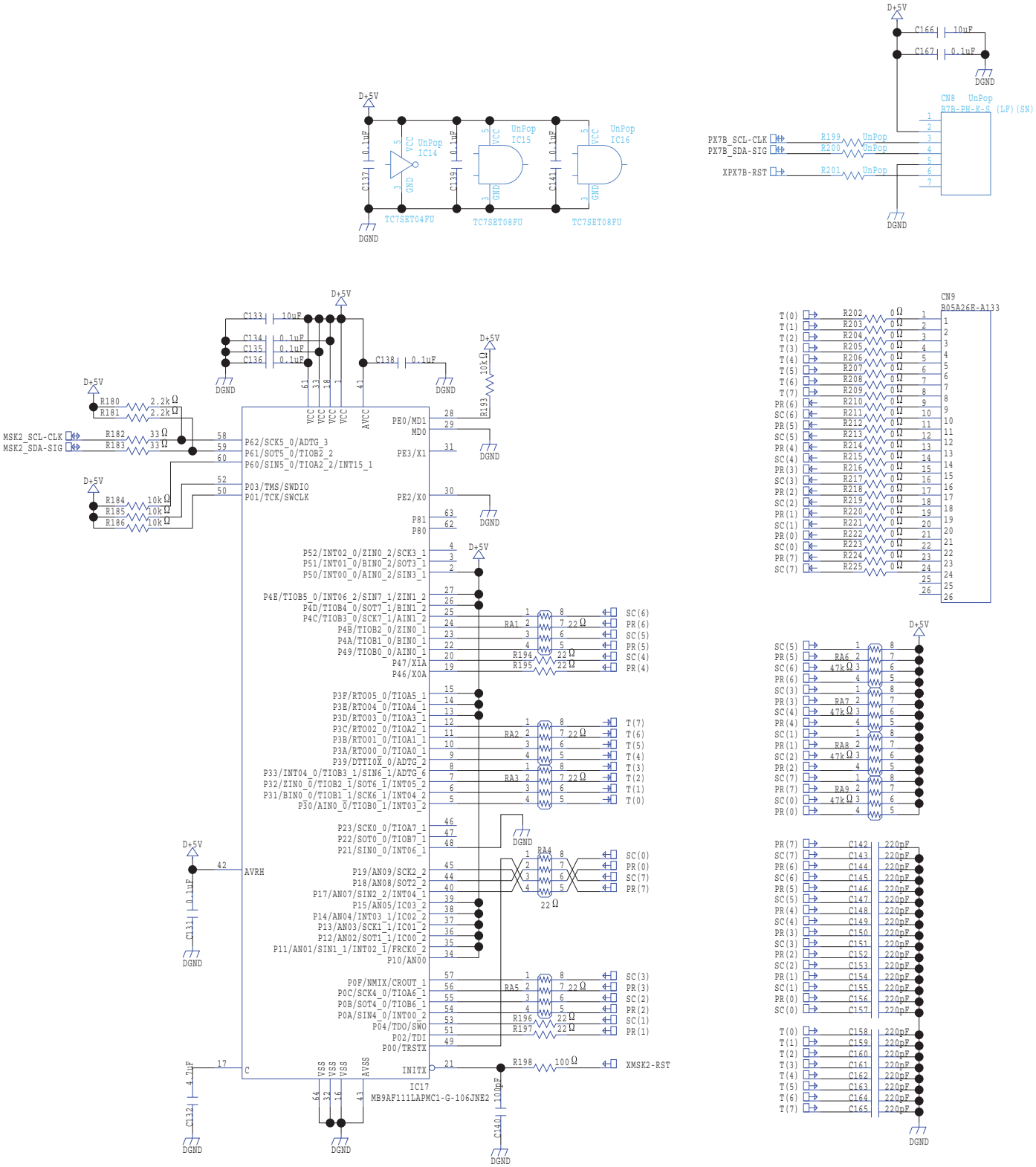




"UnPop" means "Unpopulated".

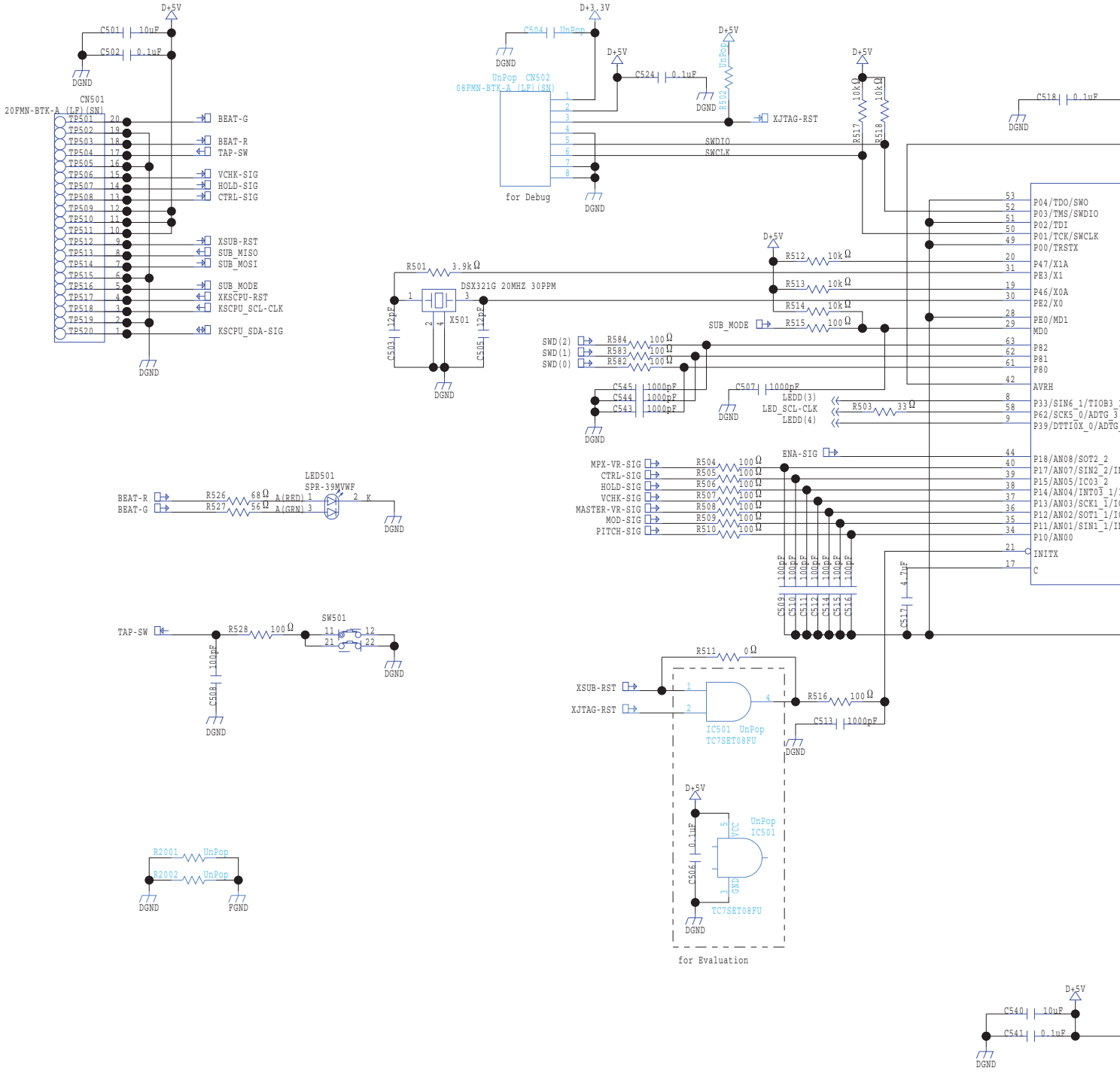
Circuit Diagram (Jack Board: 3/3)

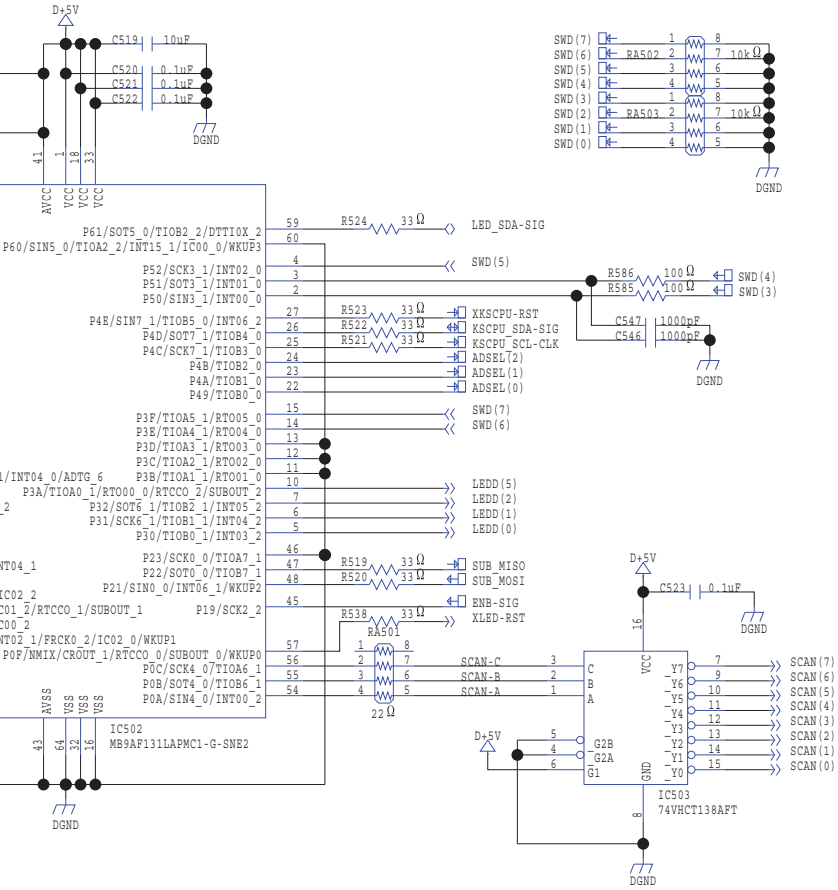


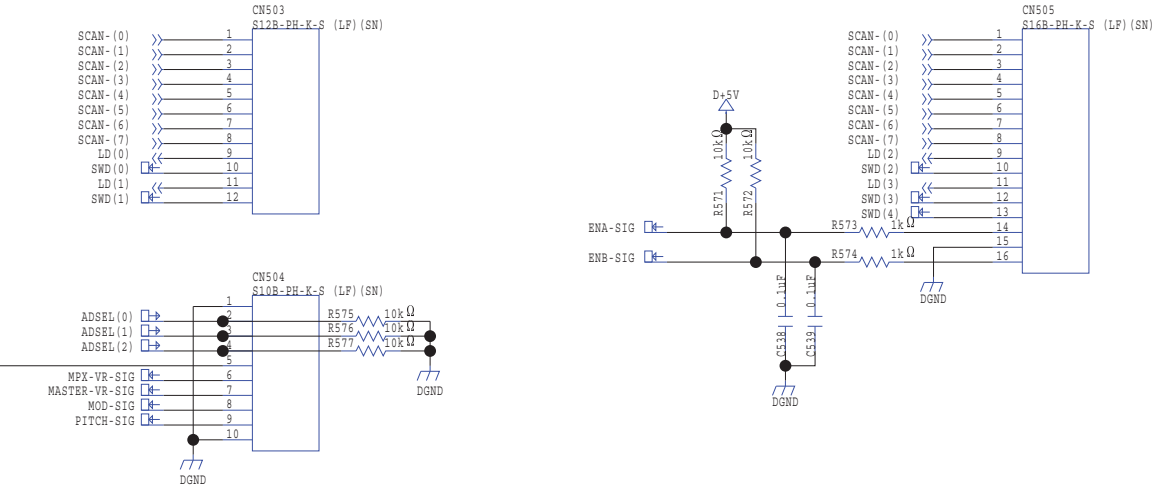


"UnPop" means "Unpopulated".

Circuit Diagram (Panel-R Board: 1/3)

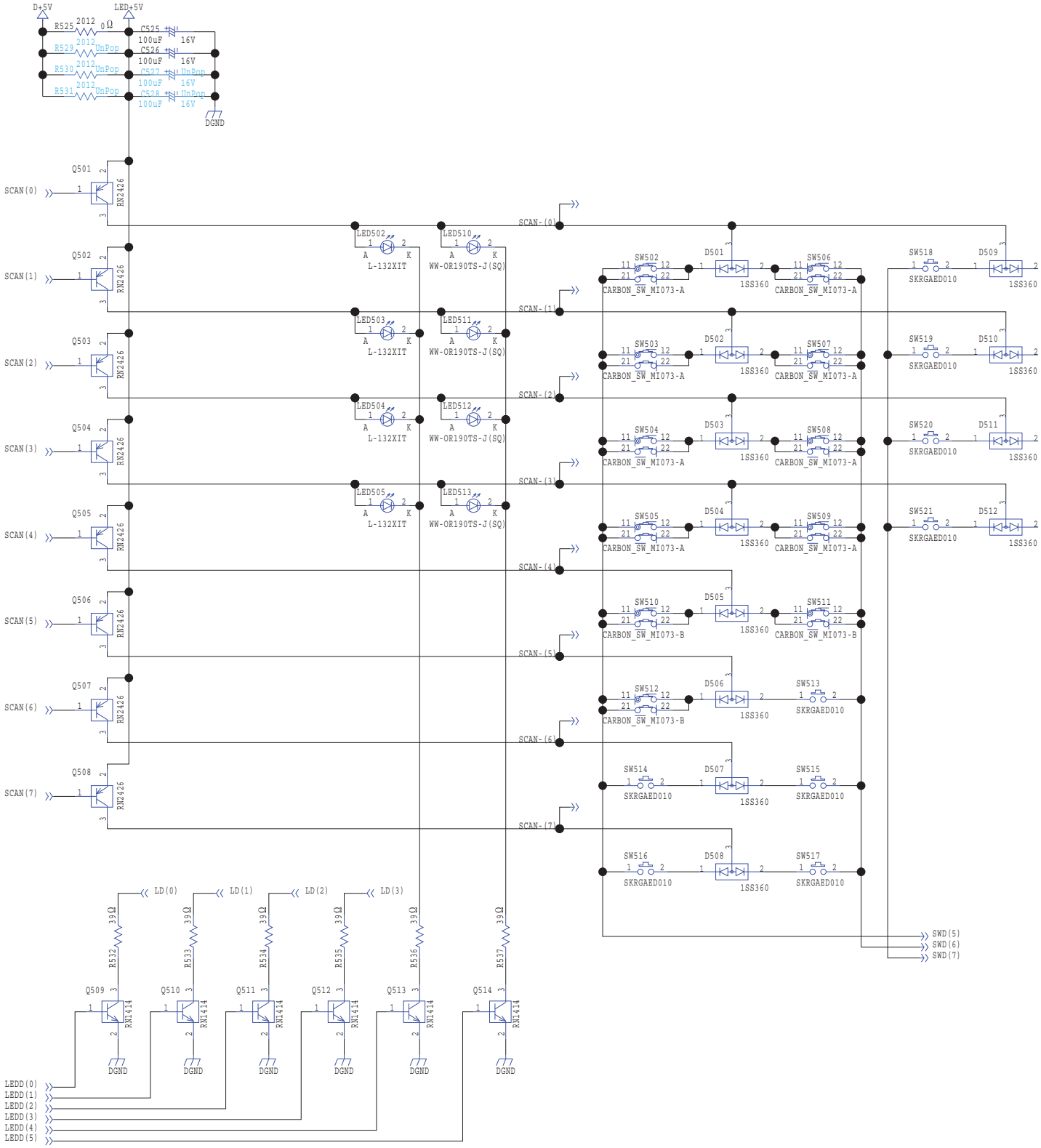






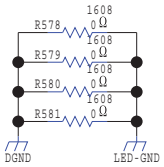
"UnPop" means "Unpopulated".

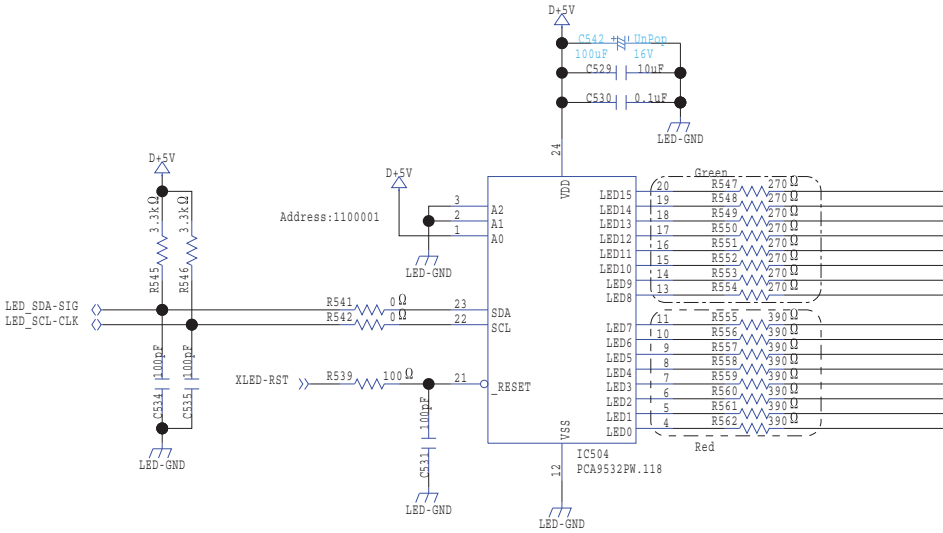
Circuit Diagram (Panel-R Board: 2/3)

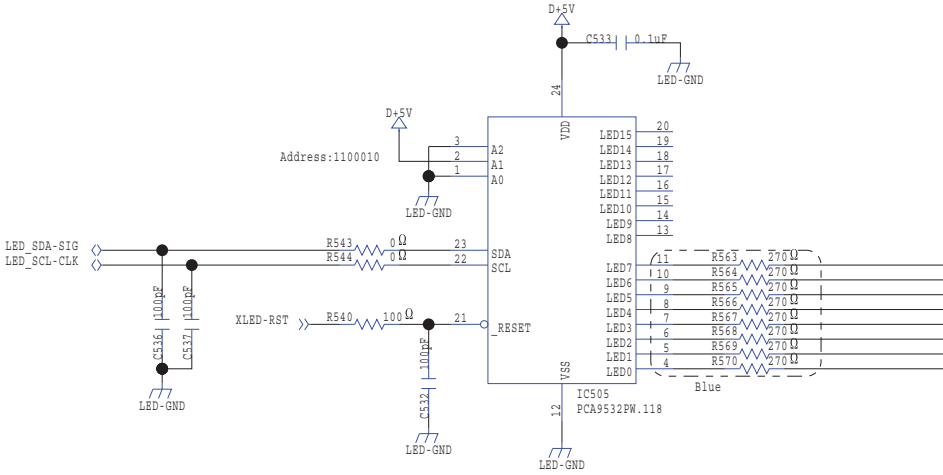


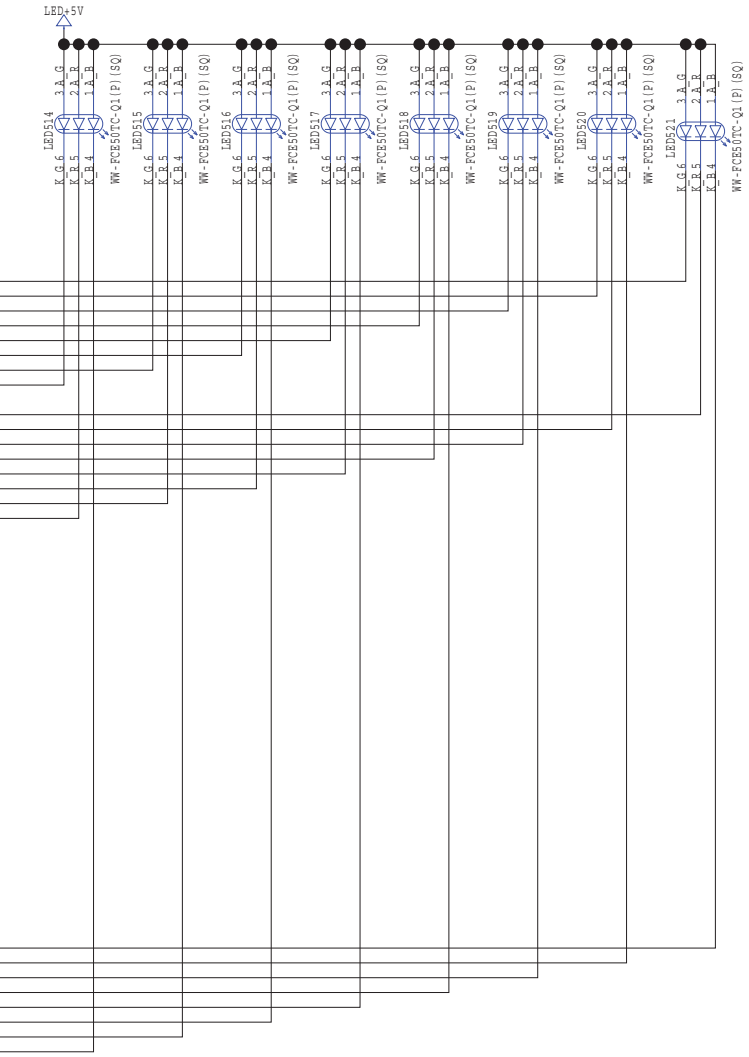
"UnPop" means "Unpopulated".

Circuit Diagram (Panel-R Board: 3/3)



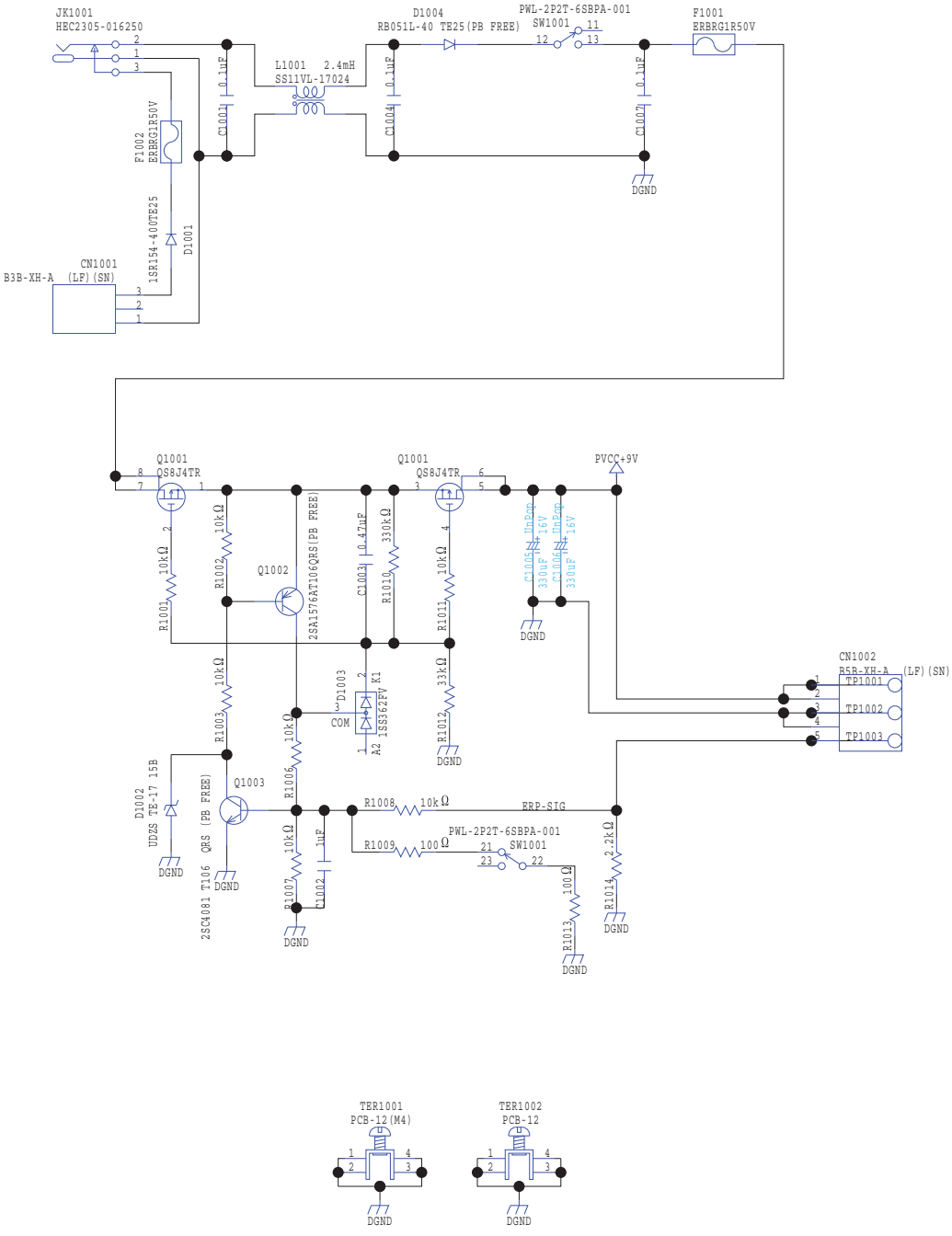






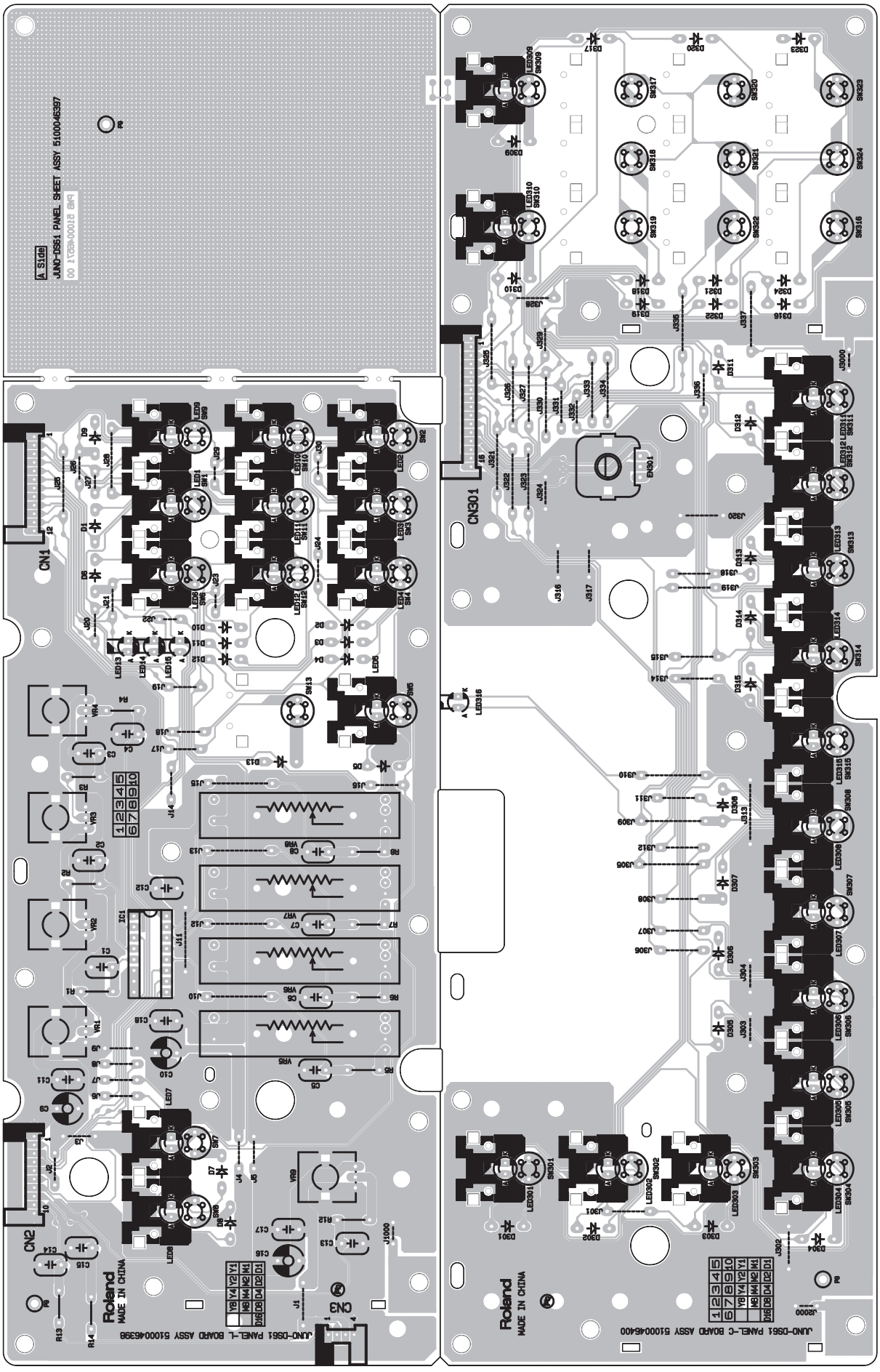
"UnPop" means "Unpopulated".

Circuit Diagram (Power Board)

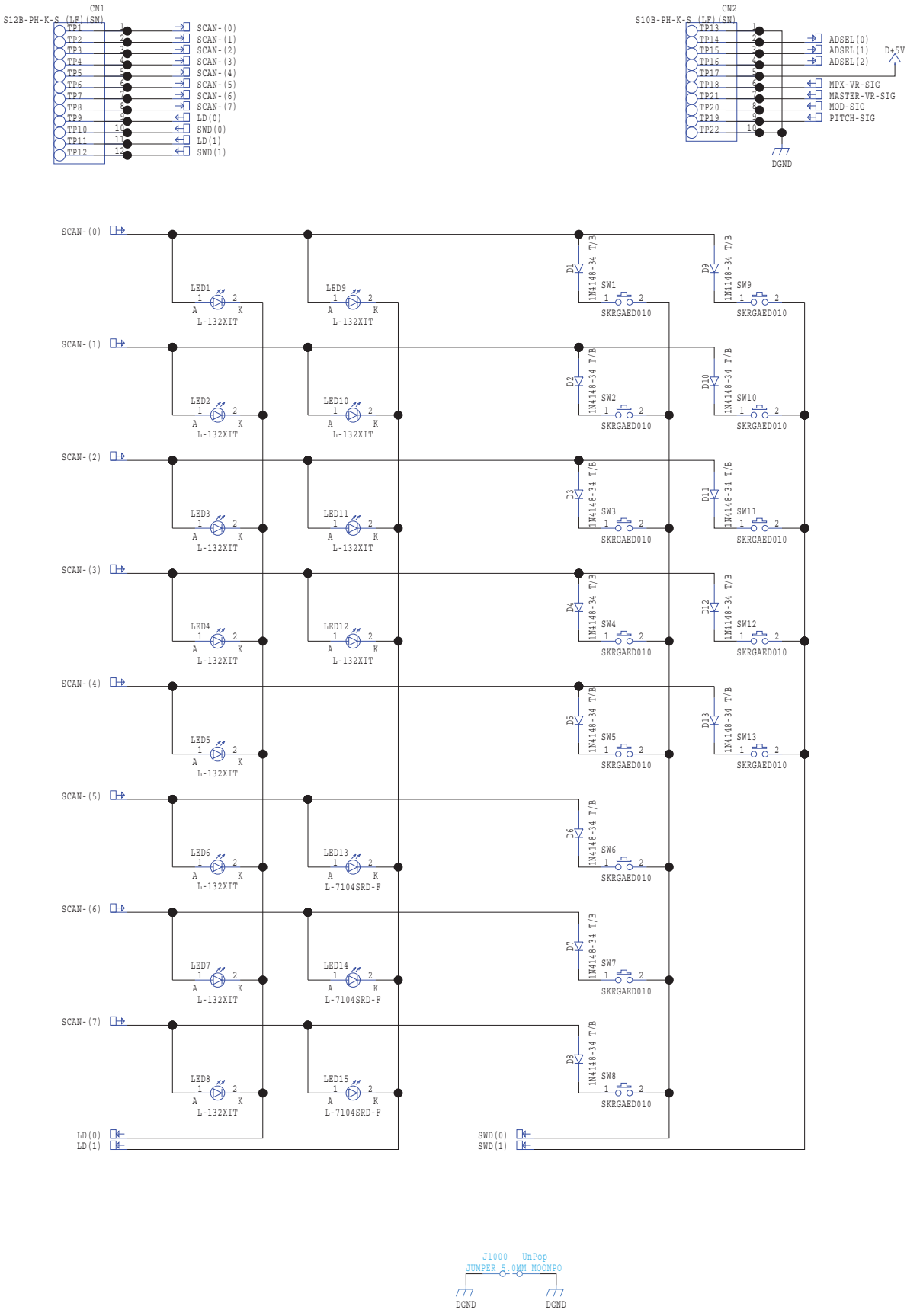


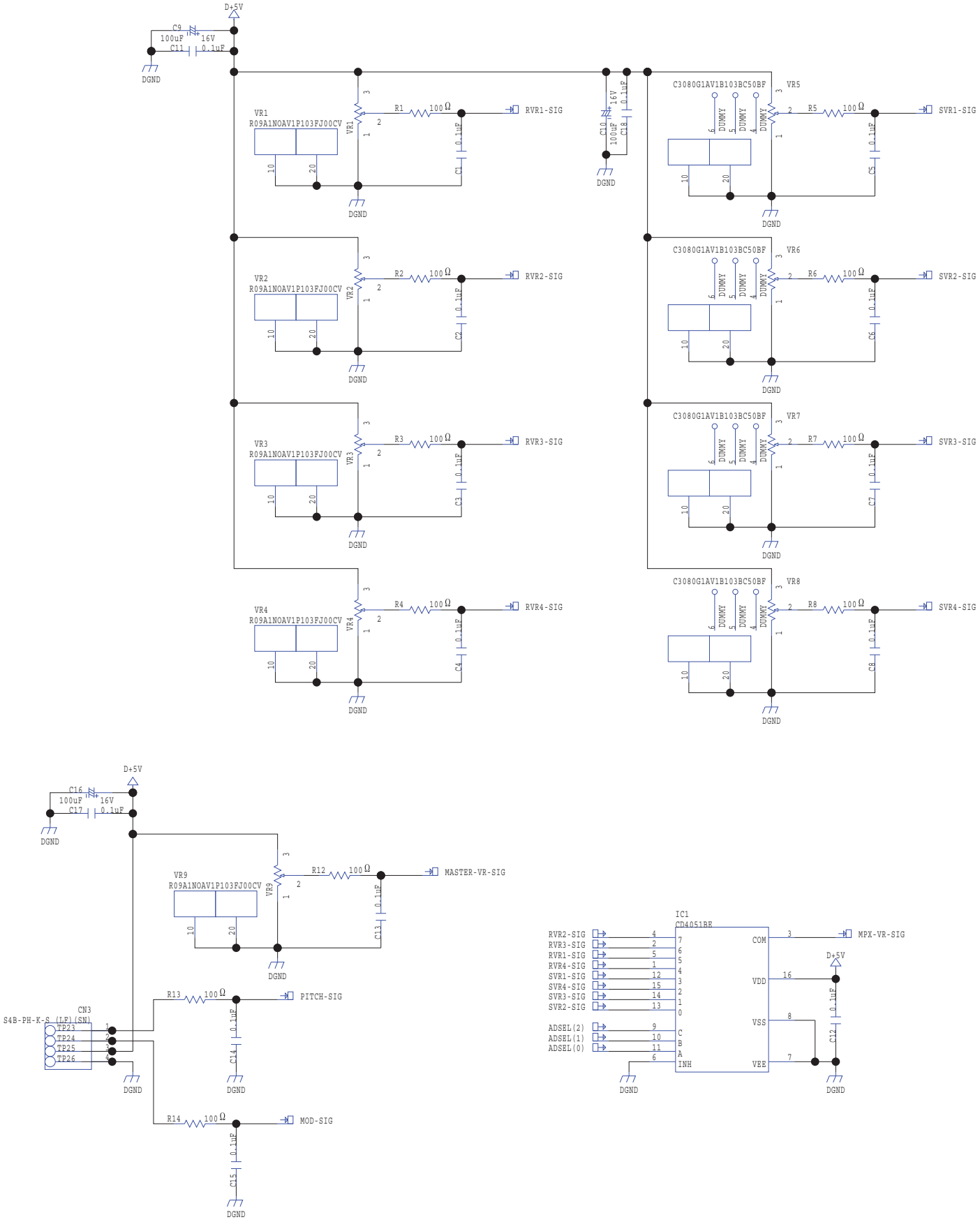
"UnPop" means "Unpopulated".

Circuit Board (Panel-L/C Board)



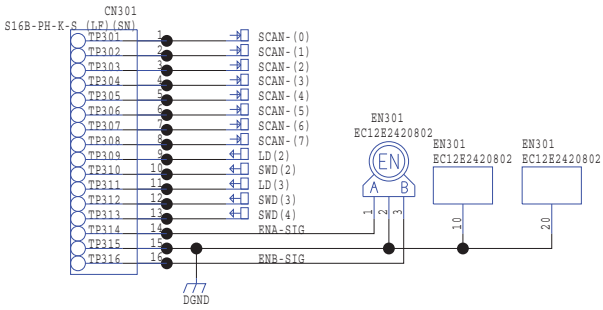
Circuit Diagram (Panel-L Board)

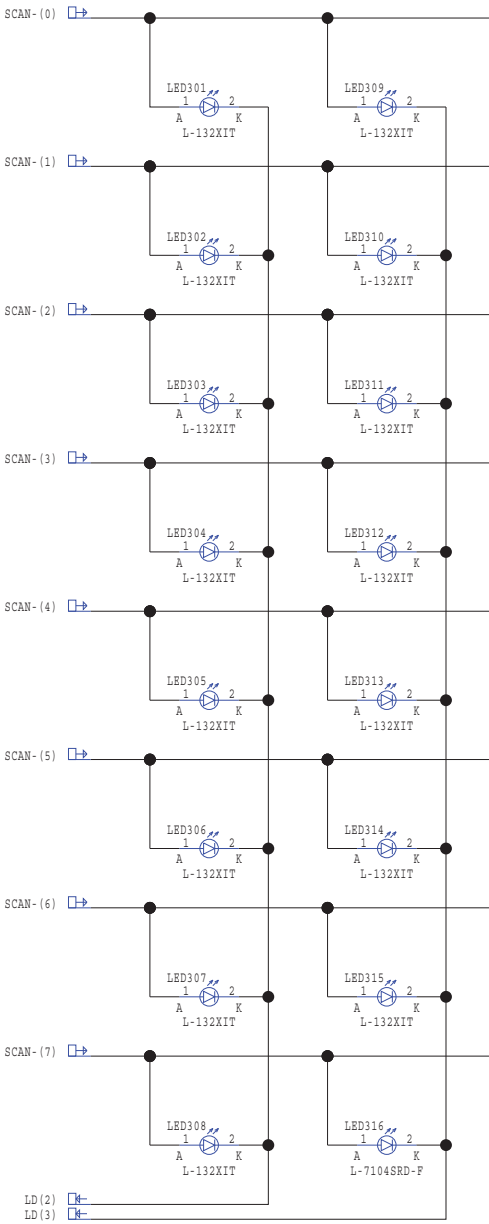


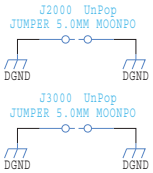


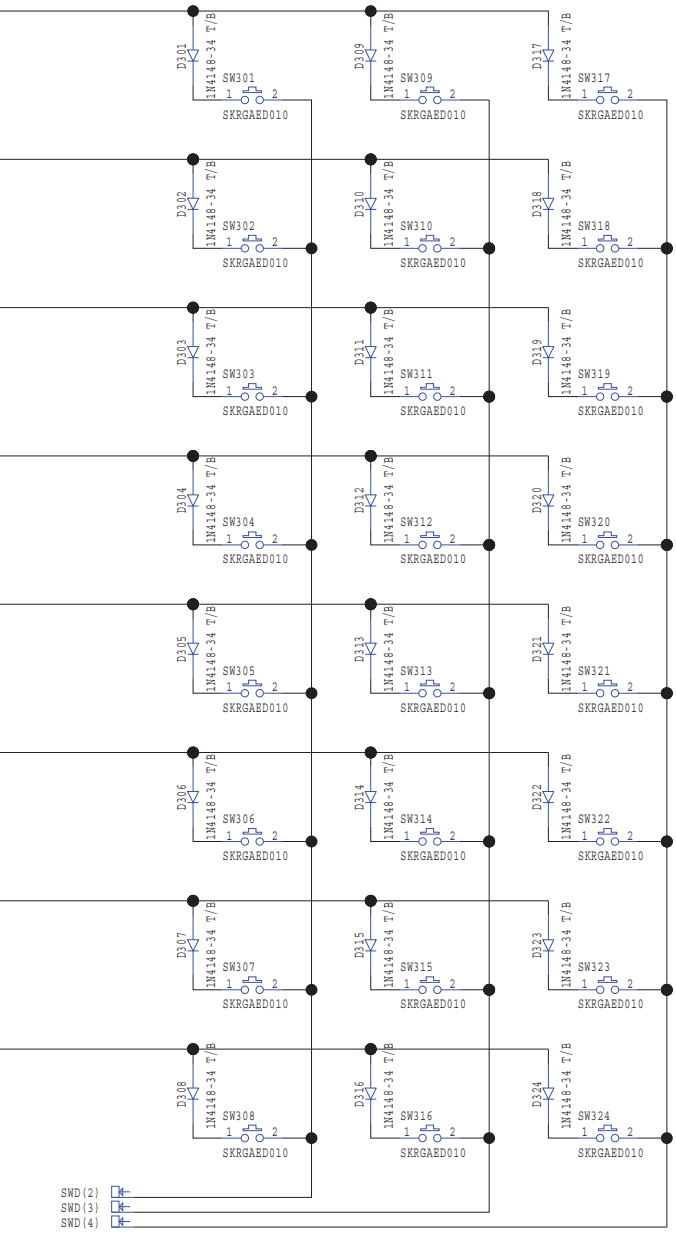
"UnPop" means "Unpopulated".

Circuit Diagram (Panel-C Board)









"UnPop" means "Unpopulated".